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Journal of the Missouri State Medical Association

January 1985

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Missouri Medicine

Vol. 82, No. 1 *Journal of the Missouri State Medical Association* January 1985

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Fulton 65251

Missouri Medicine (ISSN 0026-6620) is published monthly by the Missouri State Medical Association, P.O. Box 1028, 113 Madison St., Jefferson City, MO 65102.

Subscription rates: $15 per year. Interns and Residents, $7.50 per year.

Second class postage paid at Jefferson City, Missouri and at additional mailing offices.

Postmaster: Send address changes to Missouri State Medical Association, c/o Membership Department, P.O. Box 1028, Jefferson City, MO 65102.

The articles published in *Missouri Medicine* represent the opinions of the authors, and do not necessarily reflect the official policy of the Missouri State Medical Association.

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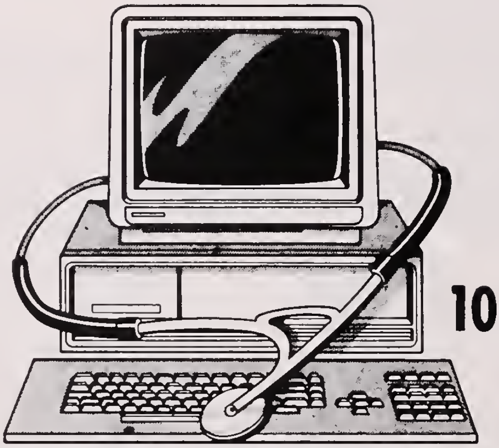

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MSMA Progress Notes

Recommendations sought for 1985

Walter A. German, M.D., Missouri State Medical Association president-elect, is soliciting recommendations for commission and committee appointments to be made at the MSMA Annual Convention, April 11-14.

Dr. German will take the gavel as the new MSMA president during the Association's 127th Annual Convention at the Kansas City Hyatt Regency Hotel. During the convention, he will appoint new commission and committee members. There are open slots on each of the following commissions or committees: Constitution and Bylaws, Impaired Physician, Legislative Affairs, Planning, Publications, Medical-Legal Affairs, Public Affairs, Interspecialty Medicine, Continuing Education and Health Manpower, and Medical Economics, Third Party Medicine and Governmental Relations.

Nominations should be sent to Walter A. German, M.D., Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102. ■

Deadline draws near

MSMA members, component medical societies and medical student delegates who wish to introduce resolutions at the 1985 Annual Convention of the Missouri State Medical Association are reminded that resolutions must be submitted by February 22, 1985 for insertion into the Delegates Handbook.

Any resolution submitted after the deadline must be made available to the House of Delegates 24 hours before the session at which it is to be introduced.

The House must approve the introduction of late resolutions submitted for the second and third sessions of the Convention.

Introduction of a resolution at the second session requires a two-thirds majority approval of the House. Introduction at the final session requires unanimous approval in order to be presented.

The individual or society introducing a resolution after the February deadline is responsible for supplying enough copies of the document for all convention delegates. ■

Annual Convention plans set for April

The 127th Annual Convention of the Missouri State Medical Association is set for April 11-14 at the Kansas City Hyatt Regency Hotel.

Walter A. German, M.D., Springfield, will be installed during the convention as the new Association president. Dr. German is currently serving the Association as chairman of the Council.

The special guest speaker to the House of Delegates will be James E. Davis, M.D., Durham, North Carolina. Dr. Davis is the AMA Speaker of the House.

Each year, the Annual Convention provides MSMA members with an excellent opportunity to meet with fellow physicians and to continue one's medical education. This year's program includes 23 sessions approved for Category I Continuing Medical Education by the Missouri State Medical Association. (These sessions are also acceptable for Prescribed and Elective hours by the American Academy of Family Physicians.) The scientific programs will be held on Friday, April 12 and Saturday, April 13.

All members of the Association also are encouraged to attend and participate in the open Reference Committee hearings which will begin at the close of the first House of Delegates, Thursday, April 11.

All spouses of MSMA members are invited to participate in the MSMA Auxiliary programs during the Annual Convention.

Preliminary programs of the Convention activities, scientific sessions and highlights will be mailed to each MSMA member in mid-February. Accompanying the programs will be reservation forms for the Kansas City Hyatt Regency Hotel. ■

State Legislature to deal with peer review and liability reform

Professional liability reform and peer review committee confidentiality will be two areas of legislative activity the Missouri State Medical Association will concentrate much of its efforts on during the 1985 Missouri General Assembly.

"Physicians, if they are willing to become involved, can have a direct and influential impact on the success or failure of our efforts to gain passage of corrective legislation on these vital issues," said John I. Matthews, M.D., chairman of the MSMA Committee on Legislative Affairs.

"If we sit back, wait and complain, nothing will be done," continued Dr. Matthews, "but if each MSMA member would write or call his or her state legislators and explain the serious problems we and our patients are facing due to skyrocketing malpractice insurance premiums and the lack of confidentiality of peer review proceedings . . . then, we might get somewhere."

At least four bills dealing with the professional liability insurance situation will be introduced. Basically, the bills are: (1) *Structured Awards*, which would permit the court to set a schedule of payments to a successful claimant rather than requiring lump sum payment; (2) *Cap on Awards*, which would set a $250,000 cap on the amount recoverable for non-economic losses; (3) *Mandatory Collateral Sources*, which would reduce the amount of judgments by subtracting benefits the claimant received from other sources; and (4) *Contingent Fee Schedule*, which would limit attorney fees in malpractice cases to a certain percentage of the award.

"Our members should tell their state legislators their personal experiences with rising premiums over the past several years and explain that this overhead cost must be passed on to our patients," said Dr. Matthews. "Also, each member should ask his legislators their opinions on the issue in an attempt to find out if legislators might have other options to restrain the growing crisis."

The issue of peer review committee confidentiality surfaced in September when the Missouri Supreme Court ruled that proceedings of such committees are discoverable in malpractice cases. Although the 1984 MSMA House of Delegates had already instructed the Association to prepare legislation to insure confidentiality, it was hoped the Court would settle the matter with a decision favorable to the committee.

"We have had many members tell us that the effectiveness of peer review committees will be destroyed if the proceedings are discoverable," explained Dr. Matthews. "These committees, as we know, are designed to improve patient care by monitoring the activities of physicians. It is the patient population which loses by making such proceedings discoverable."

The bill to be introduced would make proceedings of such committees non-discoverable in civil cases. The exceptions to the non-discoverability rule would be a physician who is being reviewed by the committee, and, on supoena, the Missouri Board of Registration for the Healing Arts.

"I know our members realize the importance of this problem," concluded Dr. Matthews, "I just hope they will put their efforts behind the passage of this bill." ■

Let your legislator know what you think

The vast majority of legislators are intelligent, considerate, busy men and women trying to do what they believe their constituents wish them to do. Legislators want to hear physicians' views, but if they don't, they will often side with the people who do contact them.

To write to your legislators, simply address the letter to him/her at the State Capitol Building, Jefferson City, MO 65101. Telephone numbers are available from the state information operator by dialing 314-751-2121. The best time to contact your legislators is when they are home in their districts and you can take them to lunch or dinner.

When you contact your legislators, it is helpful to our lobbying efforts if you will send the MSMA office a copy of your correspondence. Copies of replies are especially appreciated.

Visit your legislators in Jefferson City, too. Although it is time-consuming, perhaps the most effective way to influence a legislator is to call ahead and then visit in his/her Capitol office. See if you have a Tuesday or Wednesday available between now and June 15 (the end of the session). The MSMA staff is prepared to assist in any way. ■

Patient visits to MDs declining steadily

Utilization of physician services declined almost continuously from 1982 through the first half of 1984, possibly signaling a slowdown in growth in the health care sector, according to the Socioeconomic Monitoring System of the AMA Center for Health Policy Research.

The decline occurred in the numbers of both office and hospital visits. Total patient visits had increased from slightly more than one billion in 1975 to approximately 1.5 billion in 1982. This growth, however, appears to have ended in 1982. Between 1982 and 1983, total visits showed a slight decline.

Despite the increase in total visits from 1975 to 1982, the rapid growth in the number of physicians contributed to a slight percentage decline in the number of the visits per physician (0.8%) during the same period. From 1982 to 1983, the downward trend in the number of visits per physician accelerated by 5.2%. If these trends continue, the SMS concluded, competitive pressure can be expected to increase as the market tightens. ■

New liability hotline number

The AMA has set up a professional liability hotline to allow members to communicate directly with Association staff about malpractice and professional liability issue. The number is 800-552-4642. ■

Consent required before DWI testing

Many MSMA members and other health care professionals have voiced concerns recently regarding the need for consent prior to the administration of blood tests for blood alcohol or drug content pursuant to Missouri's "driving while intoxicated" (DWI) law. In response to these concerns, an opinion was requested and received from the Missouri Attorney General's office.

The opinion reaches four conclusions:

1. The legislature has given motorists the right to refuse to take a chemical test.
2. The right to refuse the test may be exercised at any time prior to administration of the test.
3. Once an individual has clearly and unequivocally indicated his or her refusal, no test should be conducted, even if the individual initially indicated a willingness to take the test.
4. In the absence of such a refusal to submit to the chemical test, and as long as the sample blood, urine or saliva is taken upon the order of a law enforcement officer, hospital employees are immune from liability for their actions in the test procedure, assuming such actions are not wanton, willful or grossly negligent. ■

Certification increases income

Board certification increases practice income by 23% for female physicians and 14% for male physicians, according to a report by the AMA Center for Health Policy Research. Female physicians who were board-certified in a second specialty earned 85% more per hour than other female physicians, while male physicians who were board-certified in a second specialty earned no more than other board-certified males. The percentage of all active physicians in the U.S. who were board-certified grew from 36.7% in 1971 to more than 50% in 1981. ■

Physicians consider cost

A recent AMA survey showed that 69% of the responding physicians say they consider the cost of treatment more frequently now than they did five years ago. Twenty-four percent said their sensitivity to cost considerations is about the same now as it was then, and 1% said they were less sensitive to costs now. By a wide margin (71% to 26%), physicians believe that costs can be reduced without lowering the quality of care. By a smaller margin (56% to 37%), physicians favor modifying current standards of medical practice to include an increased emphasis on cost considerations. ■

Singing Doctors release album

The Singing Doctors of the Greene County Medical Society have released their "grand finale" record album, "The Worst of the Singing Doctors." Records are $10 each, and cassettes are $12 each.

The group of medical musical humorists, who have now retired, has recorded seven albums since its formation in 1958. Proceeds benefit the Greene County Medical Society Foundation, which provides financial aid to medical students. To date, the group has netted some $369,000 for the Foundation. Loans totaling more than $172,000 have been made to approximately 150 students.

Checks should be made payable to the Greene County Medical Society Foundation, 223 Professional Building, Springfield, MO 65806. Donations are tax-deductible. ■

New car rental rates for members

Avis Rent A Car System has drawn up a new schedule of flat rates for Missouri State Medical Association members. The rates range from $34 for a subcompact to $42 for a full-size, four-door car. The rates represent savings better than the 24% business discount already offered.

The flat rates, with unlimited mileage, apply regardless of destination. According to Avis, locations that do not offer the flat rates will offer a 40% discount on normal rates for medical association members.

For more information, contact the MSMA, P.O. Box 1028, Jefferson City, MO 65102. ■

Medical Staff Needs Own Lawyer

Hospitals and their medical staffs are finding themselves much more often in conflict of interest. Medical staffs should retain their own attorneys for important reasons of self-protection, according to Healthcare Consulting, Inc.

Medical staffs and physician departments have traditionally relied on hospital council for guidance, the assumption being that the attorney was working for the common benefit of the same team. In effect, however, that reliance may no longer be appropriate. Hospital interests and staff/department concerns have diverged significantly in just the past couple of years. They promise to become even further estranged before coming closer again.

Many medical staff leaders would be well-advised to follow the trend in some parts of the country, as endorsed by recent AMA resolution, to seek legal advice separate from the hospital.

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1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

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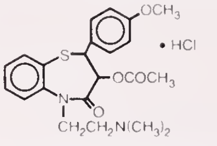

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Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy**—CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

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EDITOR'S DESK

by W. E. Wooldridge, M.D.
Editor (1978-1982)

I made the all too frequent error of taking a devoted, efficient and talented person for granted.

Here's to you, Jean Duensing!

A little while ago, Jordan Burkey, M.D., the present editor of MISSOURI MEDICINE, told me Jean Duensing was retiring from her position as managing editor. He asked me to write a tribute to her. Immediately, I replied, "Sure. I'll be glad to do it!" I thought such an idea was certainly in order.

But a few moments later I suddenly realized, "I really don't know anything about Jean." I spent four years in meetings with her, we shared acres of memorandums and innumerable telephone calls when I was editor but I didn't really know her. I had made the all too frequent error of taking a devoted, efficient and talented person for granted.

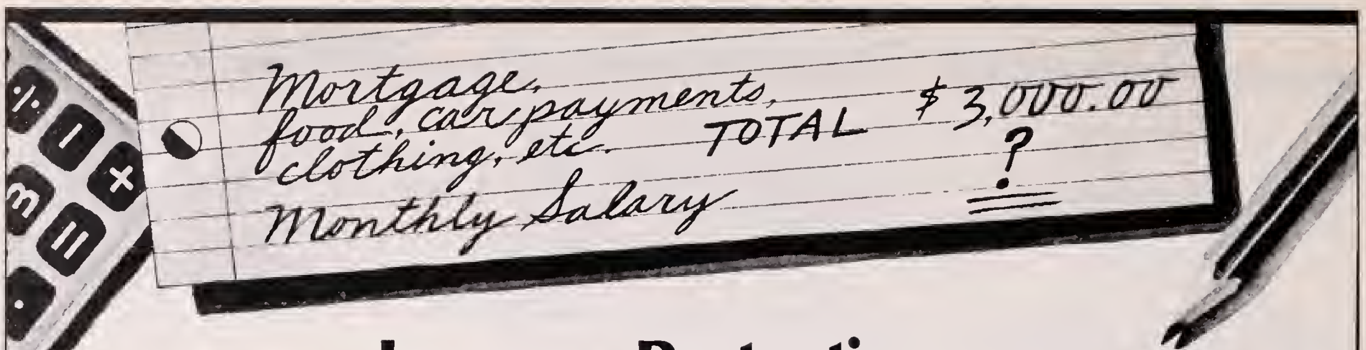
One thing is for sure, I hadn't been editor of MISSOURI MEDICINE for long when I sensed that she knew far more about this "editoring" business than I did. Oh, yes, I realized we needed a new cover for the magazine. That old green had begun to look pretty poisonous after several years. So I set out, in resplendent ignorance, and designed a new cover in gaudy red, white and blue. She has probably forgotten it, and she never said anything but, in retrospect, I think it was pretty terrible.

A couple of weeks later I received a mock-up of a new MISSOURI MEDICINE cover; vastly better and still used up until this year. "How is this?" she charitably asked. It was so good I even forgot it wasn't mine. That was just the beginning.

Then, surreptiously, I had one of the MSMA staff members get her curriculum vitae. If you recall, that's something which lays it on the line, have you achieved anything or not?

All that curriculum vitae showed was that she had been a commercial news editor, an advertising manager, a sales director for a radio station, a radio station continuity director and had attended the University of Missouri School of Journalism. In addition, she had been a women's singles tennis champion and on two championship bowling teams. Probably her real champion status was revealed to the MSMA staff person who requested the curriculum vitae. When Jean was asked, she replied, "I really haven't done anything interesting. All I've done is WORK!" I guess that about sums it up for Jean, "Stay in there and pitch."

Although I haven't shown them the courtesy of inquiry, I will bet the editor before me (Joseph V. Finnegan, M.D., 1962-1978), and after me (Jordan Burkey, M.D., 1982 to present) would agree that Jean Duensing had done something interesting. She has spent eighteen years tolerating and guiding three somewhat dumb doctors through the maze of professional journalism, which she knew far better than all of us together. ■



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Auxiliary Message

by Mrs. Gary A. (Eileen) Dyer
Health Projects Chairman

The key is involvement. By getting involved, we are protecting the future of those yet to be born.

Education is key to our successes

As in past years, the American Medical Association Auxiliary has determined the focus for 1984-1985 health projects, which furthers the "Shape Up for Life" program initiated in 1979. This year the emphasis of the prenatal and postnatal care program includes five major areas of emphasis:

☐ Adolescent pregnancy;
☐ Fetal Alcohol Syndrome;
☐ Nutrition and pregnancy;
☐ Smoking during pregnancy; and
☐ Child automobile safety restraints.

The common thread that emerges among these five areas of prenatal and postnatal care targeted for Auxiliary involvement is education. After enjoying success last year in educational efforts related to child safety restraints (and the passage of supportive state legislation), the Missouri State Medical Association Auxiliary this year has elected to pursue educational efforts in the area of Fetal Alcohol Syndrome. At spring workshops last May, MSMAA members became familiar with the syndrome and its effects. Resource materials were made available to each county for continuing this educational effort within each home district. By increasing our own understanding of Fetal Alcohol Syndrome, the number one preventable cause of birth defects, we can better help our communities understand and deal with this problem.

The key is involvement. By getting involved with prenatal and postnatal care programs we are protecting the future — our future — and the future of those yet to be born.

An additional area of emphasis this year will be to increase community awareness regarding organ donation. At our October Fall Conference in Sedalia, a packet of resource materials entitled "Love Life and Share It" was presented by the Boone County Medical Society Auxiliary (BCMSA). The packet contained planning guidelines for involvement this April in Organ Donation Awareness Week. The guidelines, along with brochures covering questions and facts about organ donation and information from other related agencies and services, provides a clear, thorough and organized program for a county Auxiliary society to follow. We commend BCMSA for their commitment to spearheading the development of this program and for providing each of us with the opportunity to take a leadership role in organ donation awareness education. We look forward to each county Auxiliary's involvement this April.

Our interest in improving the quality of life by promoting physical and mental fitness throughout life is evident in the many ongoing health projects across the state. Each program is suited to a community's resources and needs and continues to reflect the efforts of caring, committed, concerned Missouri Auxilians.

To each of you, our deepest appreciation! ■

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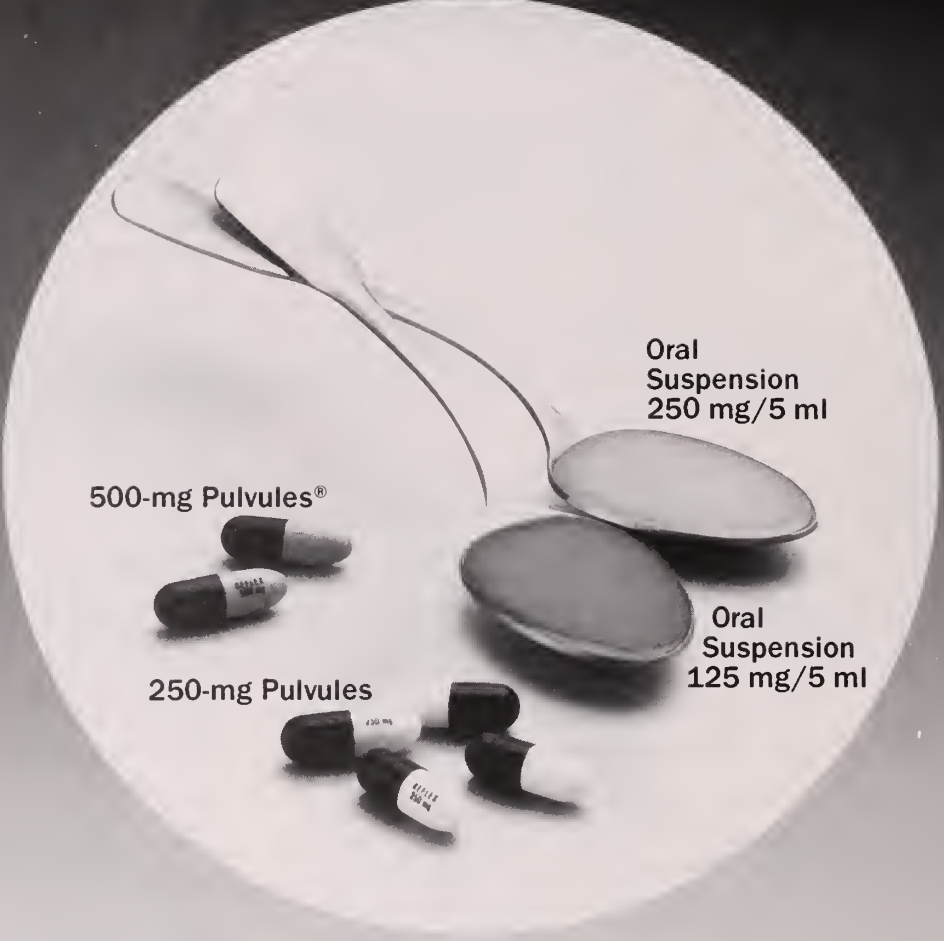

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Missouri Medicine

January 1985

Continuous Ambulatory Peritoneal Dialysis for Psoriasis

Zbylut J. Twardowski, M.D., and Philip C. Anderson, M.D.
Columbia, Missouri

At the University of Missouri Hospital and Clinics, studies are in progress to evaluate continuous ambulatory peritoneal dialysis (CAPD) as one treatment for severe disabling psoriasis. Preliminary findings indicate that for many such patients this method may have advantages over other techniques: CAPD is essentially self-therapy and can be offered on an outpatient basis.

Psoriasis is a common disease affecting approximately 1% of the world population.[1] Usual treatments with topical steroids or tar, in various combinations with ultraviolet B light or with psoralens, are often ineffective.[2, 3] Although antimetabolites such as methotrexate may be effective, they have many adverse effects,[4] especially after years of use.

Psoriasis is a disorder of skin, most easily observed in the epidermis. This outer layer regenerates about six times faster in psoriatic patients than in healthy individuals, thereby producing a thick epidermis with exfoliation of the characteristic "oyster-shell" scale.[5] When psoriasis becomes chronic and severe, the lesions may spread to the entire skin and become deeply inflamed. The process destroys the natural flexibility and toughnes of the skin; fissures and inflammation appear, thereby preventing normal body movements or rest. In some patients, joints are involved by psoriatic arthritis. For many patients, psoriasis may be a terrible, disabling disease leading to social withdrawal, unemployment and even attempted suicide. Thus, for cases of severe and complicated psoriasis, a new, effective and safe method of treatment is needed.

The pathogenesis of psoriasis is not understood. Although psoriatic lesions have been studied for more than a century,[5] the underlying mechanism causing the excessive epidermal turnover is still unknown. Recent observations of beneficial effects of dialysis, hemofiltration, and plasmapheresis on some psoriatic patients have directed researchers to an interest in humoral factors controlling the growth of the epidermis.[6, 7]

Dialysis and Psoriasis

In 1967, Russian workers reported on hemodialysis as treatment for various chronic skin diseases. This report included two patients whose psoriasis had been resistant to topical therapy, but who seemed to respond to dialysis.[8] In 1976, McEvoy and Kelly[9] reported on a patient with chronic psoriasis who had developed end-stage renal disease, and whose psoriasis cleared by the conclusion of the fourth hemodialysis. In 1977 similar observations were reported in patients treated with peritoneal dialysis and hemodialysis for renal failure.[10]

In 1978 we published the first experience on the use of peritoneal dialysis for psoriasis in patients without renal impairment.[11] This report stimulated a lengthy discussion regarding the use of dialysis as a treatment of psoriasis. Several authors reported some beneficial effect of hemodialysis[12-14] or peritoneal dialysis[15, 16] on psoriasis. No sham-treatment cases were reported for comparison. Others reported no change or even an occurrence of psoriasis in patients treated with hemodialysis for renal failure.[17-19] It should be noted that patients with chronic renal failure do not have ordinary psoriasis and should not be compared to psoriatic patients with normal kidney functions.

Most studies have been performed without experimental controls.[20] The few controlled studies reported[21-23] are of uneven quality. In the sole double-blind controlled study that employed an adequate dose of dialysis therapy, real peritoneal dialysis showed definitive improvement of psoriasis. The sham dialysis, however, did not benefit skin lesions.[23] A study of hemodialysis found no improvement during real or sham dialysis.[22] However, this study may be criticized for using two sham procedures because the period of real dialysis was only about one fourth of the minimally effective dose of hemodialysis.

From observations of psoriatic patients treated with blood purification methods reviewed recently by Gurland et al,[20] the following conclusions may be drawn:

1. Dialysis treatment yields better results than placebo treatment.
2. In the group of patients treated with a "large dose" of dialysis therapy, the fraction of responders tends to be higher than in the "low dose" group. Mastrangelo et al[24] hemodialyzed 18 patients two or three times a week until the disappearance of the skin lesions, and they observed a successful outcome in all patients.
3. The response to peritoneal dialysis seems to be better than the response to hemodialysis.

Despite all the reports on the beneficial effect of dialysis on psoriasis, the number of patients treated, especially in comparative studies, is very small. More well-controlled studies are needed to confirm these observations. The optimal dialysis schedule is yet to be established. One may speculate that some of the nonresponders reported in the literature did not receive sufficient dialysis.

Continuous Ambulatory Peritoneal Dialysis

Continuous ambulatory peritoneal dialysis (CAPD) is an efficient dialysis technique, especially for the removal of middle and large molecular weight substances. This form of peritoneal dialysis is widely used in the treatment of end-stage renal disease. Recently, we used CAPD in the treatment of recurring psoriasis in one of our original patients (Case 1) reported in 1978.[11]

This patient had been free from psoriasis for more than five years until psoriatic plaques appeared on her elbows and her head in the summer of 1983. The psoriasis deteriorated; plaques occurred on the palms, soles, legs, and trunk. The patient sought a repetition of her previously successful dialysis treatment. On an outpatient basis, a permanent coiled silastic catheter was implanted and an irrigation technique was used for a catheter break-in. Four weeks of uneventful dialysis, using three daily exchanges of two liters each, resulted in complete remission of psoriasis, except for small residual lesions on the elbows and in the sacral area. Koebner phenomena occurred in the sites of a surgical incision and a catheter exit, but subsided during dialysis. The catheter had not been removed at the completion of a four-week dialysis period.

This initial experience indicates that, compared to intermittent peritoneal dialysis, CAPD may have advantages in psoriatic patients because it may be performed on an outpatient basis. In case of a relapse, CAPD may be reinstituted without difficulty in the patient already familiar with the technique.

Mechanisms of Action

We do not know why dialysis helps psoriatics. That the effect of dialysis is due to a placebo effect seems unlikely in view of controlled studies in which sham dialysis did not affect the skin lesions. Spontaneous remissions, coincidental with dialysis therapy, seem to be unlikely because remission is rapid and normally occurs in a low percentage of patients who have had severe psoriasis for more than two years. Spontaneous or seasonal remissions do occur in patients with mild disease. Non-specific benefits of dialysis, such as those due to heparin, lactate or acetate absorption, or the removal of uric acid, are considered to be unlikely explanations for the improvement.[20]

Three hypotheses remain to be taken seriously: 1) removal of substance(s) normally controlling increased epidermal cell proliferation; 2) interference by dialysis with cellular or humoral immune mechanisms involved in epidermal cell growth regulation; and 3) production or activation of an inhibitor, indirectly.

The first hypothesis assumes that some exogenous or endogenous substance(s) accumulates in the blood of psoriatic patients. This substance stimulates the basal cell layer of the epidermis and triggers some sequence of events resulting in rapid epidermal turnover. Alleged causative substances could be cleared from the blood far more efficiently by dialysis than by healthy kidneys. Many important substances are not removed by the kidneys. Among many possible small molecular substances, borate and lithium may deserve an evaluation. Both borate and lithium have been linked clinically with exacerbations of psoriasis,[25-27] probably by an effect on the polymorpholeukocyte, and clearances of these ions by dialysis are higher than by the healthy kidneys.

However, taking into account that hemodialysis seems to be less efficient in treating psoriasis than peritoneal dialysis,[20] hemofiltration and/or plasmapheresis,[7] we are inclined to suspect some substance that is of relatively high molecular weight and produced endogenously.[28] Peritoneal dialysate from a long-dwell exchange might be a suitable source of this substance.

The hypothesis that the benefits of dialysis are due to interference by dialysis with immune mechanisms involved in epidermal cell growth regulation has some encouragement in the study suggesting that HLA antigens may be connected with the responsiveness to dialysis therapy.[29] Yet another study has linked the responsiveness of psoriatic lesions during peritoneal dialysis with the total mass of white blood cells removed in dialysate.[30] The authors suggested that the removal of polymorphonuclear leukocytes might reduce enzymatic damage to the stratum corneum by serine proteinase activity.[31] The cells removed may represent a special functional group of cells.

The third hypothesis, assuming an indirect production of some epidermal cell inhibitor, does not have experimental support yet.

Practical Use

Disregarding speculations about mechanisms of action, we conclude, from both our personal experience and the data from literature, that peritoneal dialysis is an effective treatment in many patients with unusually severe psoriasis. However, peritoneal dialysis is not without the risk of complications, especially peritonitis. Psoriatic lesions harbor more microorganisms than does the healthy epidermis, and a meticulous aseptic technique is mandatory to prevent external contamination of the peritoneal dialysis system. Of special importance, the peritoneal catheter inserted through a skin lesion involving the abdomen may predispose to additional risk of infection.[11] Only patients with severe, recalcitrant psoriasis, for whom social and psychological burdens outweigh the demands and risks of CAPD should be given this form of therapy.

We agree that more controlled studies are needed before any blood purification techniques could be recommended as a regular treatment of psoriasis. The procedure is experimental, and should be used with caution. The choice of blood purification technique, indications and contraindications, and optimal treatment schedules are yet to be established. Studies are underway in many institutions using plasmapheresis, hemofiltration, peritoneal dialysis and hemodialysis. At our institution, we have chosen continuous ambulatory peritoneal dialysis as the technique to study, because CAPD is essentially self-therapy and can be performed almost entirely on an outpatient basis, thus minimizing interference with employment. The major risks of dialysis involve persons with chronic renal disease who have major impairments in their regulatory, metabolic and immunologic systems. Even the most severe psoriatic patient represents a better therapeutic risk than a patient with end-stage renal disease. With the assistance of specialists, the peritonitis induced by dialysis is easily manageable in almost every case.

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Primary Malignant Melanoma in an Ovarian Cystic Teratoma

A Case Report and Literature Review

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Primary malignant melanoma of the ovary is an extremely rare neoplasm. There are only seven well-documented cases reported in the English literature from the year 1901 to 1981. The well-documented case of a malignant melanoma arising in a cystic teratoma of an ovary in a 26-year-old woman is described.

A case of primary malignant melanoma arising in an ovarian cystic teratoma is presented. There have been only 12 such cases reported in English literature between the years 1901 and 1981. Of these 12 cases, only seven fulfilled most of the criteria of primary malignant melanoma arising in the ovary, while in the remaining five cases, primary involvement of the ovary was not well-documented. The following case fulfills all the criteria of primary involvement of the ovary by malignant melanoma arising in a cystic teratoma. Careful examination of the patient's entire body failed to reveal any other primary site. At the time of surgery, the tumor was restricted to the ovary. However, following widespread metastases, the patient died a few months later.

Case Report

A 26-year-old white woman, gravida 0, para 0 , was admitted to the hospital with intermittent, sharp, stabbing abdominal pain in the lower right quadrant. She had been experiencing the pain for five days. It was exacerbated by bowel movements. Prior to surgery, a large ovarian cyst with possible torsion was suspected. The result of a pregnancy test was negative, and the patient was operated on the next day.

An exploratory laparotomy with total hysterectomy, bilateral salpingo-oophorectomy, appendectomy and Meckel's diverticulotomy was performed. The final pathology report showed malignant melanoma arising in a cystic teratoma of the right ovary. The left ovary showed benign cystic teratoma without a melanoma component. During the operation, neither metastases nor spread to the peritoneal cavity was noted. The patient was discharged six to seven days later. No further therapy was scheduled at that time.

Six months later, the patient was readmitted with complaints of chest pain and congestion, shortness of breath, and a productive cough. Pneumonia was suspected. The patient did not have fever or chills. She was generally weak and easily fatigued. A chest x-ray showed a massive right-sided pleural effusion. A chest tube was inserted into the right side of the chest to relieve it of approximately 3000 ml of straw-colored fluid. Cytologic examination of this fluid revealed it to be packed with malignant cells consistent with a diagnosis of metastatic melanoma. An additional 1800 ml of fluid was removed and intrapleural tetracycline was administered every other day for three days with successful results. A pleural effusion on the left side developed soon after this, from which approximately 3000 ml of fluid was drained. A pericardial effusion also was noted although the patient never showed symptoms nor had a cardiac tamponade during her

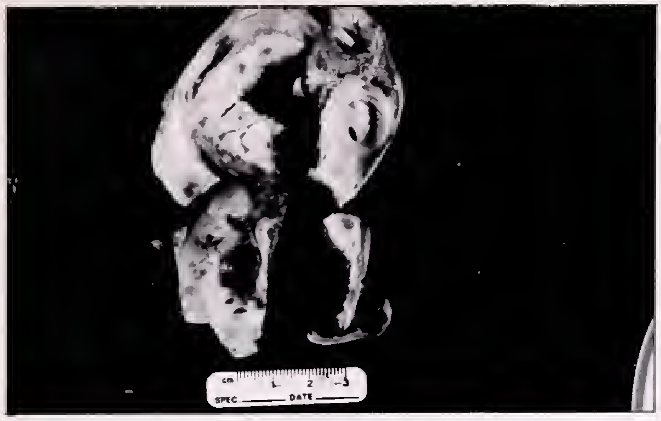

Figure 1. Sections of ovarian cyst revealing dark brown melanin pigments.

hospital stay. She was treated with a chemotherapy regimen of Dimethyl-trazenomidazole-carboxamide (DTIC). An abdominal x-ray at that time suggested a recurrence of the pelvic mass, and the patient eventually developed ascites. She was discharged from the hospital and died two months later. Consent for an autopsy was not granted.

Pathologic Examination

The right ovary weighed 254 g. and measured 10.5 x 8.5 cm. The surface of the ovary was smooth and showed a few dark brown to black, flat, irregular areas. On sectioning, the cut surface of the ovary revealed a large cystic area containing a dark brown to black, thick fluid. The cyst wall had several dark brown to black, well-defined, irregular areas (Fig. 1). The rest of the ovary was solid and showed hair, cartilage, bone and tooth tissue and yellowish, lobulated, soft, fatty areas.

The left ovary also was enlarged and measured 6 x 6 x 2 cm. The cut surface showed gray-white, soft material with hair and several small cystic spaces containing sebaceous material.

Microscopic examination of the right ovary showed ectodermal, mesodermal and endodermal components. The ectodermal component was composed of several cystic spaces lined by stratified squamous epithelium resembling skin. The junctional region of epidermis and dermis showed sheets of large cells with enlarged hyperchromatic nuclei and prominent nucleoli (Fig. 2). Mitotic activity was prominent. The cytoplasm showed abundant dark brown granules (Fig. 3). The basal layer of skin showed several vacuolated cells migrating upward toward the surface (Fig. 4). These malignant cells infiltrated the neural tissue and surrounding fibrous tissue. One of the sections also showed rosette formation of neural tissue. The tumor extended on the surface of the ovary and also into the fibrous adhesions between the ovary and the fallopian tube. The rest of the ovary showed cystic and solid areas lined by squamous epithelium and skin appendages, cartilage, bone, neural tissue and bronchial mucosa.

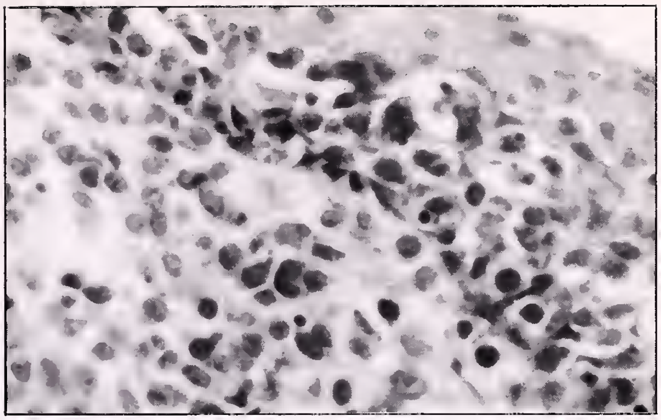

Figure 2. Large vacuolated cells with hyperchromatic, irregular nuclei at dermo-epidermal junction of the skin component of ovarian cystic teratoma (x400).

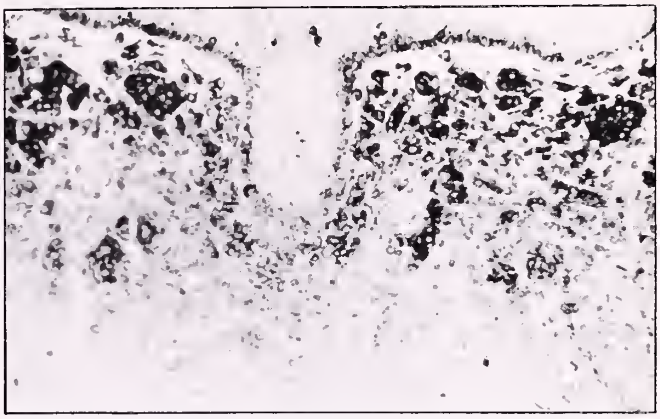

Figure 3. The modified Warthin-Starry stain reveals intracytoplasmic, dark melanin granules in an area invaded by tumor (x250).

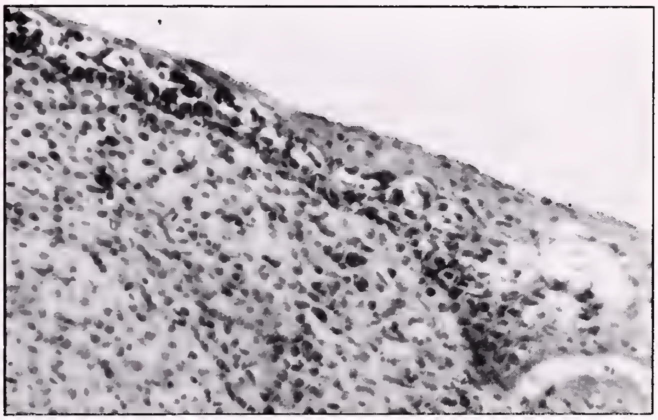

Figure 4. Vacuolated cells migrating towards the surface of squamous epithelium while the subepithelial region shows sheets of similar cells (x250).

The left ovary showed benign ectodermal components (such as skin), a cyst containing keratin, and mesodermal components (such as cartilage). No tumor was found in the ovary but surface adhesions between the ovary and the tube revealed malignant melanoma cells. Microscopic and gross examination of

Table 1

Well Documented Cases

Author	*Age*	*Path Finding*	*Followup*	*Year*
Brunning[5]	50	Teratoma	Died 2 months	1963
Cronje, et al[2]	74	Cystic teratoma	Died 2½ years	1979
Gregg[6]	56	Teratoma	Died 4-5 months	1981
Leo, et al[3]	72	Teratoma	8 months NED	1973
Marcial-Rojas, et al[1]	77	Teratoma	None	1956
Park, et al[4]	49	Teratoma	1 month NED	1970
Tham[7]	44	Teratoma	Died 8½ months	1981
		Doubtful Cases		
Andrews[12]	35	Melanoma with met.	2 months NED	1901
Hameed & Burstein[9]	64	Inoperable melanoma	Died 46 days	1970
Jenstrome & MacMuffly[10]	55	Melanoma with met.	2½ years NED	1959
Van Hoosen[8]	40	Inoperable melanoma	None	
Winterwitz[11]	26	Bilateral melanoma	Died 1 year	1909

the uterus revealed no significant histopathological condition.

Discussion

The primary malignant melanoma arising in a dermoid cyst is rare, but quite possible because melanocytes are present in skin, meninges and the ocular elements of cystic teratomas of the ovary.

A search of the English literature revealed 12 reported cases of primary ovarian melanoma, of which only seven are well-documented (Table 1). In the remaining recorded cases, the ovary is not well-documented as the primary site.

In 1956, Marcial-Rojas and DeArellano[1] were the first to demonstrate intraepithelial malignant melanoma with junctional activity in a cystic teratoma. According to the criteria presented in the article by Cronje and Woodruff,[2] only four cases, including theirs, fulfilled all the requirements for a primary ovarian melanoma arising in a cystic teratoma.[1-4] All four cases revealed junctional activity. The remaining three cases[5-7] described above in the table did not show the junctional activity. The other five cases[8-12] were doubtful because four of these cases had metastasized beyond the ovary. Thus, metastatic malignant melanoma to the ovary cannot be ruled out definitely.

The current case fulfills the criteria for a primary ovarian melanoma as described by Marcial-Rojas and Cronje. A thorough examination of the patient failed to reveal any other primary site of malignant melanoma. An examination of the ovary showed the tumor was present only in the right ovary, associated with other benign teratomatous components. Though the tumor had spread to the surface of the right ovary, metastases were not found in any other organs at the time of surgery. Microscopically, the tumor was shown to have junctional activity with melanocytic cells migrating towards the surface of the squamous epithelium. Only one criterion was different from other patients. In most of the reported and well-documented cases, the patient's age was between 49 and 77 years. Our patient was comparatively young (26 years).

The malignant melanoma eventually spreads to the peritoneum, pleura, lymph nodes, liver, bone, etc. The five-year survival rate cannot be determined since there is no long-term followup of the cases reported.

Our patient had a total abdominal hysterectomy and bilateral salpingo-oophorectomy. This appears to be the treatment of choice in most of the reported cases. The patient also received chemotherapy (DTIC), to which she responded for a short period. However, she eventually developed metastases and died seven months after her initial diagnosis.

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Diagnostic and Therapeutic Applications of a Betamimetic Agent in Infertility

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Three patients with uterocornual spasm, documented by hysterosalpingography (HSG) and diagnostic laparoscopy with tubal insufflation, are presented. Prior to a repeat HSG, all patients underwent a short course of terbutaline therapy with restoration of tubal patency. The diagnostic and therapeutic role of a betamimetic agent in an infertility evaluation is discussed.

Terbutaline, a synthetic sympathomimetic and a selective β_2 agonist used extensively in the treatment of asthma as well as a tocolytic agent for premature labor, has been shown to act physiologically on the β_2 receptors of the lungs, heart and uterus.[1] This action, specifically on the uterine receptors, causes relaxation of the myometrium, vasodilatation with increased blood flow, and decreased prostaglandin release.[1] To date, no specific applications have been advocated in gynecology or infertility. The following cases are the first reported using terbutaline in the management of bicornual obstruction/dysfunction prior to repeat hysterosalpingography. A diagnostic and management scheme is proposed for these patients.

Case Reports

Case 1. A 25-year-old nulligravida with a history of four years of infertility and a hysterosalpingogram (HSG) revealing bilateral uterocornual obstruction (Fig 1) was referred for a tubal implantation. Her medical history showed no pelvic inflammatory disease, previous intrauterine device or major abdominal/pelvic surgery. She had taken oral contraceptives for one year. Results of the patient's previous infertility evaluation showed a normal male factor (post coital test), ovulatory factor (Basal Body Temperature chart), endometrial biopsy and peritoneal factor (no tubo-ovarian disease at laparoscopy). Tubal insufflation performed at laparoscopy revealed no spillage of dye plus ballooning of uterocornual areas, and dye extravasating into the venous plexus. Prior to anticipated surgical intervention, the patient underwent a second HSG (12th day of cycle) with 2.5 mg oral terbutaline at bedtime and again two hours prior to the procedure. The second HSG revealed prompt uterine filling with bilateral tubal filling and free peritoneal spill (Fig 2). Presently the patient is taking 2.5 mg oral terbutaline every 12 hours on Days 13, 14 and 15 of a 28-day menstrual cycle. If conception has not occurred in six cycles of terbutaline therapy with continual monitoring of Basal Body Temperature charts, post coital test and endometrial biopsies, another HSG and diagnostic laparoscopy will be undertaken.

Case 2. A 24-year-old nulligravida was referred to the endocrine service with a history of pelvic pain and infertility for two years. There was no history of pelvic inflammatory disease or abdominal/pelvic surgery.

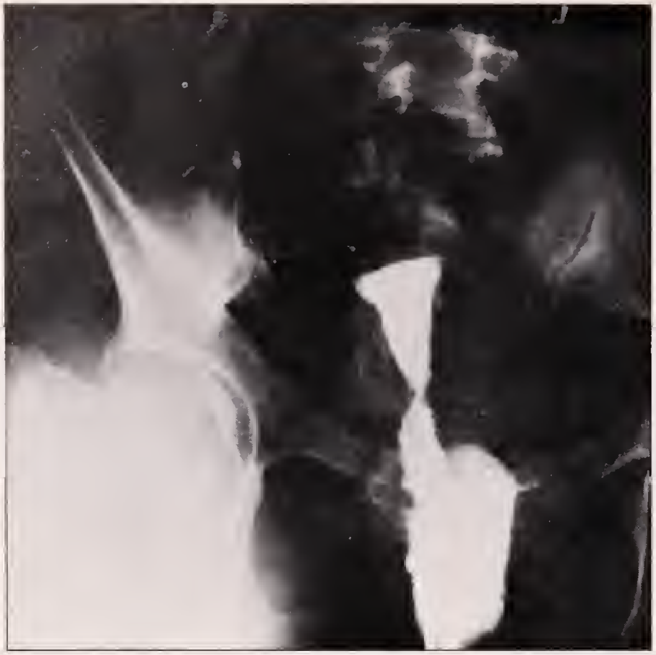

Figure 1. Hysterosalpingogram before Terbutaline therapy.

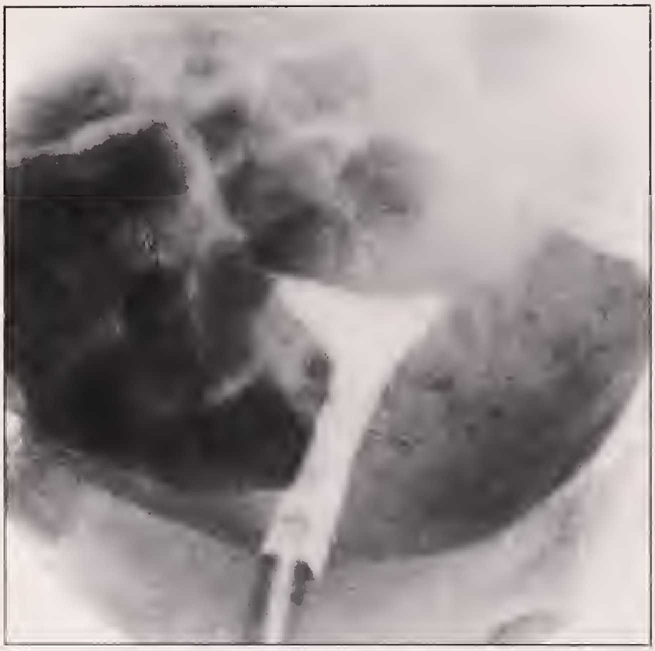

Figure 3. Hysterosalpingogram revealing bicornual obstruction prior to Terbutaline therapy.

An intrauterine device had been used for one year; however, it was removed because of dysmenorrhea. Her previous infertility evaluation showed normal results with evaluations completed on the male factor (semen analysis), cervical factor (post coital test), ovulatory factor (Basal Body Temperature chart and endometrial biopsy), and uterine factors. A previous HSG revealed bicornual obstruction with adequate uterine filling (Fig 3).

A diagnostic laparoscopy and tubal insufflation revealed a mild hydrosalpinx of the right fallopian tube with a normal left fallopian tube. Insufflation revealed no tubal filling bilaterally, with extravasation of the dye into the venous plexus. Three months post laparoscopy, the patient underwent a repeat HSG (10th day of cycle) with 2.5 terbutaline orally at bedtime, and again two hours prior to the procedure. The procedure revealed prompt filling and spill of salpinx medium from the left fallopian tube (Fig 4). Surgical intervention has been delayed for six cycles of terbutaline therapy (2.5 mg bid on Days 13, 14 and 15) possibly to enhance fertility and to relieve uterotubal spasm.

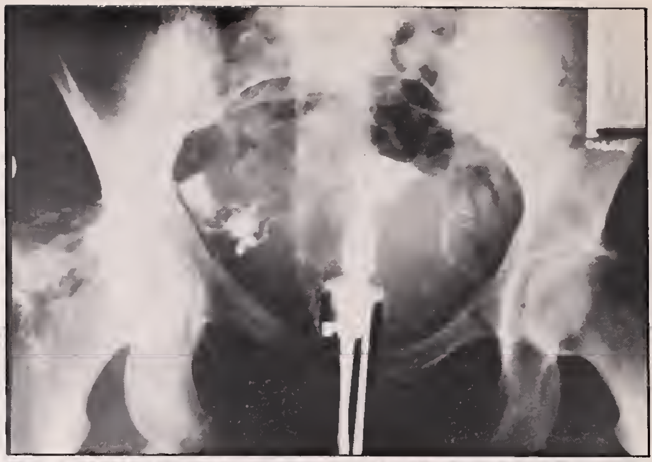

Figure 2. Hysterosalpingogram after Terbutaline therapy.

Case 3. A 23-year-old gravida 1, para 0, abortus 1, was referred to the endocrine service with a history of infertility for five years. Her medical history included a therapeutic abortion five years prior, use of an intrauterine device for one year, and one month's use of oral contraceptive steroids. There was no history of pelvic inflammatory disease, major abdominal or pelvic surgery.

Her previous infertility evaluation revealed a normal male factor, cervical factor, and an HSG consistent with uterocornual obstruction. A previous diagnostic laparoscopy and tubal insufflation (1979) revealed findings consistent with absent tubo-ovarian disease and a bilateral spill of insufflated dye. The patient underwent a repeat semen analysis, post coital test, endometrial biopsy and diagnostic laparoscopy plus tubal insufflation. At laparoscopy, the patient was found to have normal tubo-ovarian anatomy, however, there was no filling of the fallopian tubes with dye. Approximately four weeks post laparoscopy, a repeat HSG (12th day of cycle) with oral terbutaline therapy (2.5 mg at bedtime and 2 hours prior to the HSG) was performed with prompt tubal filling and bilateral spill. The patient is presently undergoing six months of midcycle terbutaline therapy (2.5 mg bid on Days 14, 15 and 16) before further diagnostic intervention.

Discussion

Our understanding of tubal physiology, including ovum pick-up and tubal motility, has increased

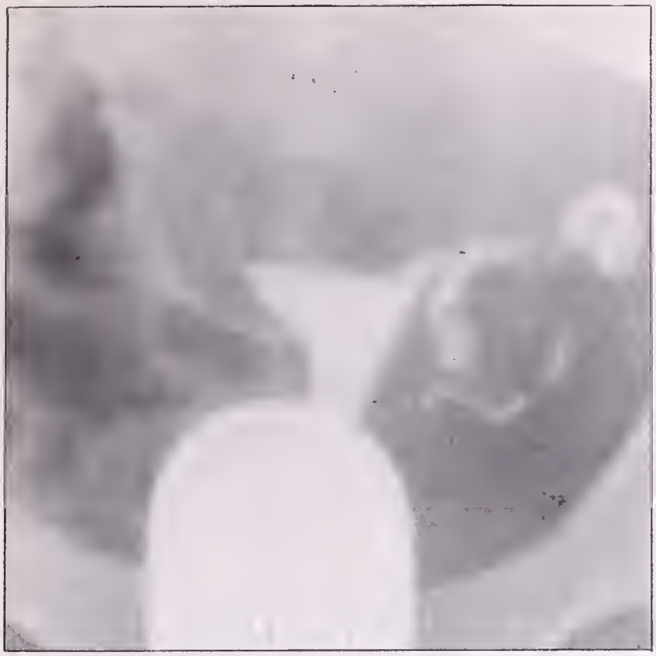

Figure 4. Hysterosalpingogram revealing left tubal filling with spill after Terbutaline therapy instituted.

significantly over the past five years, particularly with the advent of microsurgery and microsurgical techniques. Uterotubal obstruction/dysfunction has long been recognized as a clinicopathological entity; however, the true pathophysiology has never been clearly delineated. Etiologically, these patients are thought to have salpingitis isthmic nodosum, tubal polyps or idiopathic spasm at the uterotubal junction from a local imbalance of prostaglandins.[2] Undoubtedly, errors in technique and mistaken interpretation of results of HSG can account for inaccurate diagnosis by this technique. However. false positive laparoscopic findings of cornual obstruction can be expected in no more than 3% of patients[3] with another 5% manifesting tubal spasm.[4]

In the past, patients thought to have uterotubal dyskinesia have been treated with various antispasmodics (isoxuprine, amylnitrate)[2] during the HSG evaluation, and if the dyskinesia was successfully relieved, no further therapy was advocated. If conception did not occur within a given period of time (six months to one year), surgery was usually performed (i.e. uterine implantation, cornual resection with reanastomosis/implanation) with variable results.[2]

The performance of the HSG does have potential limitations related to technique, including rapidity of injection, poor cervical application of instruments, and insufficient contrast material. Nevertheless, the procedure described in this report provides acute relief of uterotubal spasm and offers possible therapeutic benefits during the pre-ovulatory phase (Fig 5). Through the therapeutic use of oral terbutaline (half-life of 4 hours),[1] preovulatory uterocornual spasm may be relieved; uterotubal blood flow increased; and tubal dyskinesia, ovum pick-up and transport possibly improved.

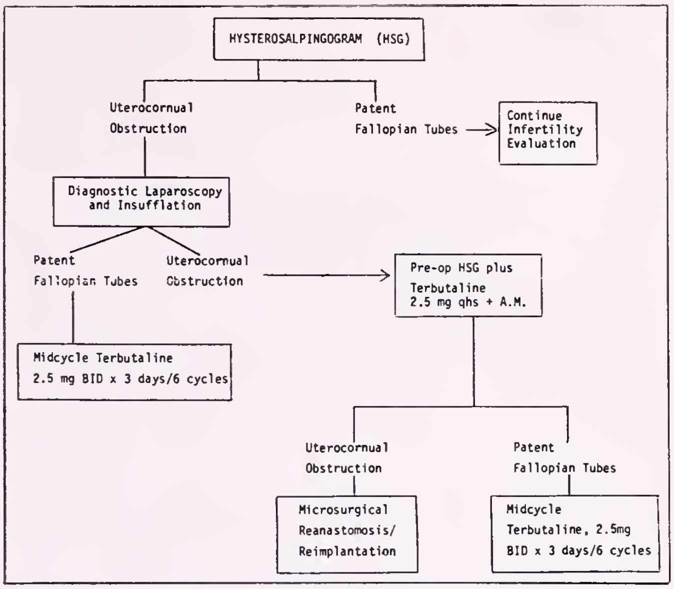
HYSTEROSALPINGOGRAM (HSG)
Uterocornual Obstruction
Patent Fallopian Tubes
Continue Infertility Evaluation
Diagnostic Laparoscopy and Insufflation
Patent Fallopian Tubes
Uterocornual Obstruction
Pre-op HSG plus Terbutaline 2.5 mg qhs + A.M.
Midcycle Terbutaline 2.5 mg BID x 3 days/6 cycles
Uterocornual Obstruction
Patent Fallopian Tubes
Microsurgical Reanastomosis/ Reimplantation
Midcycle Terbutaline, 2.5mg BID x 3 days/6 cycles

Figure 5. Terbutaline Protocol — Diagnostic and therapeutic applications in uterocornual obstruction.

Several questions may be raised relative to midcycle terbutaline therapy: 1) Should oral terbutaline be used? 2) Should terbutaline therapy start earlier in the proliferative phase? 3) Will the ectopic gestation rate increase? To date, none of these problems have been noted in these three patients. Undoubtedly, a larger study will answer these questions; nevertheless, this diagnostic and therapeutic modality should be tried on any patient with uterocornual spasm. Through its acute and chronic therapeutic applications, pelvic surgery may prove unnecessary, thereby preventing the additional risk of pelvic adhesions and scarring with further compromised fertility.

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Vitiligo-Like Syndrome Following the Use of Fluphenazine Enanthate

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The management of an agitated schizophrenic patient was interrupted by the appearance of depigmented areas over her body associated with the intramuscular administration of large doses of fluphenazine (Prolixin) enanthate. This depigmentation was gradually resolved after discontinuation of medication. Although this is a commonly used anti-psychotic drug, its implication in producing dermatological lesions was not apparent in an extensive search of literature and research reports.

The purpose of this report is to present an uncommon adverse reaction — depigmentation following the use of fluphenazine enanthate — which may contribute to our knowledge and understanding of the use of this drug. It is well-documented that high dosages of potent neuroleptic drugs, particularly slow-release intramuscular fluphenazine preparations, can cause severe side effects, some of which are life-threatening. Affected patients are in considerable distress and, as a result, frequently become non-compliant, which may be followed by decompensation and subsequent hospital readmission. These conditions are not life-threatening, but could cause anxiety and concern to the patient. The following case illustrates the evaluation, findings and management of a psychotic patient who developed depigmentation.

Case Report

The patient was a 44-year-old black woman with a documented history of chronic undifferentiated schizophrenia dating back to 1967. Her mental disorder was consistently diagnosed as schizophrenia, and a review of her record met the DSM III criteria for this condition. She was treated with phenothiazines or the butyrophenones class of anti-psychotic medication for the past 10 years and antiparkinsonian drugs for related extrapyramidal reaction.

The patient came to the hospital emergency room in a greatly agitated state. She displayed hostility and threatening behavior towards her mother. She also was preoccupied with religious ideation and fell frequently to her knees to pray. A mental evaluation at that time showed her to be appropriately dressed and groomed; her thought processes were loose and tangential; affect was shallow but appropriate to her mood. The content of her thought included religious preoccupation, obsessive ideation and hallucinations. There were no signs of impaired cognitive functions.

The patient, divorced with four daughters, lived in an underprivileged neighborhood with her mother and children. She completed the 10th grade but never worked, subsisting on disability income and whatever her family could provide. She had a long history of alcohol abuse, but no history of abuse of other substances. A review of her hospital records showed the patient had been taking 12.5 mg. fluphenazine enanthate intramuscularly every two to three weeks; 2 mg. benztropine mesylate (Cogentin) orally twice a day and 10 mg. thiothixene hydrochloride (Navane) orally three times a day for two years. The patient had regular appointments in the After Care Clinic for continued treatment, but often did not show and was frequently non-compliant. She would not take her medication for weeks to months, and she generally had to be readmitted to the hospital after decompensation.

The patient had no history of thyroid disease, diabetes, Addison's disease, pernicious anemia, vitiligo and no exposure to toxic environmental chemicals (e.g., phenolic compounds) was known. Her diet was regular. Physical examination showed no abnormalities.

Due to her poor drug compliance, the patient was given 50 mg. fluphenazine enanthate intramuscularly every two weeks and 10 mg. fluphenazine hydrochloride orally three times a day for psychosis. She was also given 1 mg benztropine mesylate orally at bed-time for her mild cogwheel rigidity and akathesia. She was later stabilized and discharged to her family with arrangements made for return to the After Care Clinic. Medication prescribed upon her discharge included: 50 mg. fluphenazine enanthate intramuscularly every two weeks and 1 mg. benztropine mesylate orally at bedtime. At this time no depigmentation or other abnormalities were noted.

Three months later, the patient was readmitted exhibiting psychotic behavior similar to that of her previous admission, including hostility and agitation. Physical examination revealed depigmented, flat, irregular patches above her ears, on her breasts, pubic areas, and sparsely on the dorsum of her hands bilaterally. The patches were normal in response to pain, touch, two-point discrimination and temperature. Koebner phenomenon proved negative, and results of a neurological examination were normal. During her hospital stay, she continued to receive fluphenazine enanthate and benztropine; the depigmented areas became increasingly larger and progressively worse. In four weeks, the lesions doubled in size with new lesions appearing and the older lesions becoming more depigmented.

Laboratory tests were done for the causes of vitiligo. The tests revealed the following values: T3 uptake, 27%; T4 R1A, 7.8μg/dl; T7 free T4 index, 2.11%; fasting blood sugar, 88 mg/dl; serum folate, 6 pg/ml; vitamin B12, 264 pg/ml; serum cortisol level AM, 16 μg/dl; PM, 4 μg/dl; serum sodium, 144 μeq/l; potassium, 4.3 μeq/l; chloride, 106 μeq/l; 24-hour urine for 17 ketosteroids, 5 mg/24 hours; for 17 hydroxycorticosteroids, 2.9 mg/24 hours. The patient's total 24 hours urine volume was 680 ml: she "missed" a few urine specimens. Other laboratory tests included zeta sedimentation rate, anti-thyroid, anti-microsomal antibodies C.B.C. with differential, Hb/Hct, SMA 12, UA, VDRL, PT, PTT, chest X-ray and electrocardiogram. Results were normal.

Skin biopsy examined with direct immunofluorescence revealed no immunoglobulin or immune complex deposition. Immunoglobulins IgA, IgG, IgM and complement C3, C4 were also negative. Microscopic examination showed thick layers of keratin and epidermis that appeared normal. The dermis showed few melanophages; staining of epidermis showed virtual absence of melanin. The pathological report indicated marked perivascular inflammation consistent with an allergic phenomenon or foreign substance.

Medication was discontinued and the patient was started on a different class of antipsychotic medication: 30 mg. thiothixene hydrochloride orally three times a day and 1 mg. benztropine mesylate orally twice a day. Her illness stabilized within a two-week period. The depigmented patches ceased progression and no new lesions appeared. Ten weeks later, the lesions regained pigmentation.

Discussion

Careful review of the patient's chart history showed no previous occurrence of depigmentation. Extensive examination failed to reveal any cause for the depigmentation. She was tested for the most common systemic diseases that could cause vitiligo including diabetes mellitus, thyroid disease, pernicious anemia, Addison's disease. The results were normal. Anxiety could not have been a contributing factor since the patient remained in the same environment. A skin biopsy subjected to direct immunofluorescence examination was negative for immunoglobulin and complement. No immune complex deposition was noted and, as a result, autoimmune disease was ruled out. Microscopic examination showed perivascular inflammatory reaction.

Within three months of being placed on fluphenazine enanthate, the patient developed depigmentation that became increasingly and progressively worse with destruction of melanocytes. Within 10 weeks of inpatient observation, after discontinuation of fluphenazine, the lesions ceased progression and finally became repigmented. Therefore, by elimination, fluphenazine enanthate was implicated. Benztropine mesylate in combination with thiothixene hydrochloride was continued and is not believed to have caused the lesions. If it had, the depigmentation would have continued.

Conclusion

A case of iatrogenic vitiligo associated with fluphenazine enanthate, a phenothiazine which has never been implicated in this entity, has been described. It is suggested that clinicians and researchers evaluate patients of any ethnic origin periodically prior to and during the use of large doses of fluphenazine enanthate. The presence of systemic diseases associated with vitiligo need not necessarily prevent the use of fluphenazine enanthate, but caution should be exercised by the physician. If clinical circumstances warrant, the physician should consider alternative neuroleptics.

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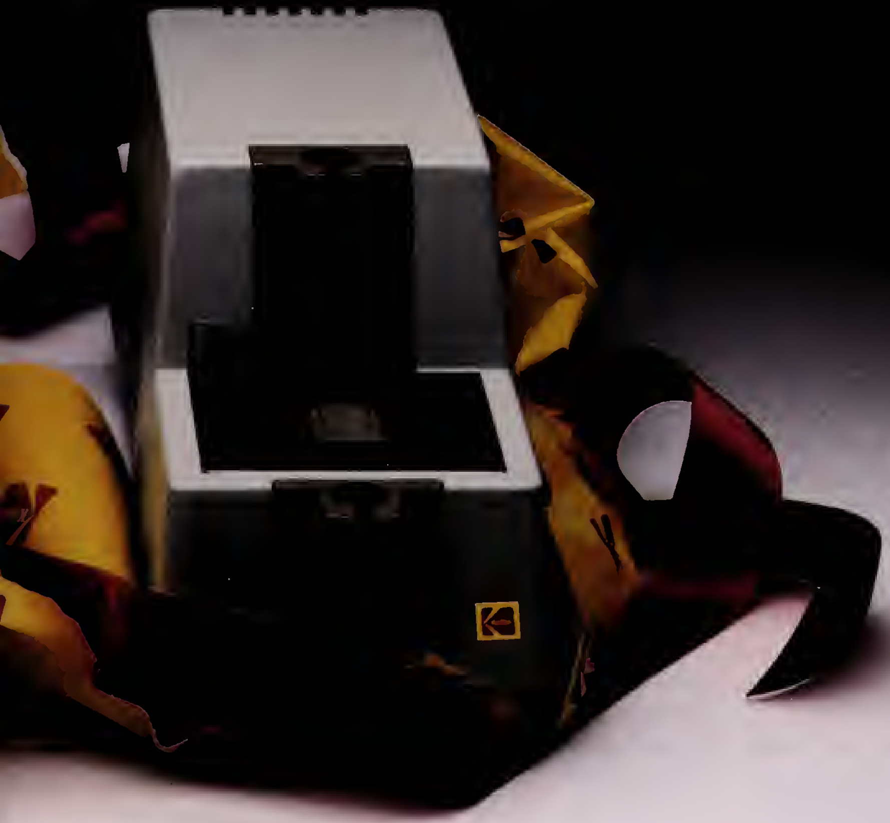

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Special Article

Peer Review in Missouri

By Mohammad N. Akhter, M.D.

Dr. Akhter is executive vice president and medical director of the Missouri Patient Care Review Foundation.

Following passage of Public Law 92-603 in 1972, which established the Professional Standards Review Organization (PSRO) program, the Missouri State Medical Association (MSMA) and the Missouri Association of Osteopathic Physicians and Surgeons (MAOPS) joined together to form a statewide peer review organization. The corporation founded as a result of this action was the Health Care Foundation of Missouri. The intent was to qualify as a statewide PSRO, however, a policy determination at that time by the Department of Health, Education and Welfare stipulated that Missouri was to be split into five regional areas and could not be served by a single peer review organization.

Later in the program, the concept of PSRO Statewide Support Centers was advanced for selected multiple-PSRO states, one of which was Missouri. The objective for these organizations was to serve as a technical resource for PSRO activities. The Health Care Foundation qualified and served in this technical resource capacity, acting through five regional committees which coincided with the five PSRO boundaries. With the termination of the Support Center funding in 1976, the Health Care Foundation became inactive.

In 1982, the Peer Review Improvement Act was passed, setting the stage for replacement of the PSRO program. One major change was that peer review should be conducted on a statewide basis and not fragmented, as under the PSRO program. Under a mandate from the MSMA Council and the MAOPS Board, an effort was undertaken to form an organization that would satisfy the requirements of the emerging Peer Review Organization (PRO) Program. The result was formation of the Missouri Patient Care Review Foundation, which was incorporated in February 1983. Subsequently, resolutions passed by both the MSMA and the MAOPS House of Delegates formally endorsed the Foundation as the focal organization for peer review in the State of Missouri.

On August 1, 1984, the Missouri Patient Care Review Foundation was designated by the Health-Care Financing Administration as the PRO for the State of Missouri and was awarded a contract to carry out review activities. Methodology for achieving contractual requirements prescribed by HCFA includes the following types of review: preadmission certification of elective admissions for selected procedures, retrospective admission review, admissions within seven days, pacemaker implantation/reimplantation, transfers from acute PPS hospitals, review of those hospitals classified as "exempt" (specialty, e.g., chemical abuse hospitals), review of hospital issuance of denial notices, intensified review of specific Diagnosis-Related Groups (DRGs), and admission pattern monitoring.

Each local society has received a copy of the Foundation's contract with the government. We encourage all physicians to review the document carefully. In addition, copies of the contract are available for review from the regional offices of the Foundation, from the offices of Northwest Missouri PSRO in Kansas City, and from CEMPROC in St. Louis (Fig. 1).

It is important that every physician in the state understand the contract between the government and the Foundation. Lack of understanding will result only in problems for physicians which will translate into problems for hospitals and patients. We at the Foundation are committed to avoiding such problems.

Through the PRO contract, the Foundation has agreed to accomplish the following:

- ☐ Reduce admissions for procedures that could be performed effectively and with adequate assurance of patient safety in an ambulatory surgical setting or on an outpatient basis. Preadmission certification will be required for some elective admissions;
- ☐ Reduce the number of inappropriate or unnecessary admissions or invasive procedures for specific diagnosis-related groups (hysterectomy after age 70 — DRG 354);
- ☐ Reduce the number of inappropriate or unnecessary admissions or invasive procedures by specific practitioners or in specific hospitals;
- ☐ Reduce unnecessary hospital readmissions resulting from substandard care provided during the prior admission;
- ☐ Assure the provision of medical services which, when not performed, have "significant potential" for causing "serious patient complications" (e.g., inappropriate use of antibiotics);
- ☐ Reduce avoidable deaths due to nosocomial infections;
- ☐ Reduce unnecessary surgery or other invasive procedures; and
- ☐ Reduce the number of postoperative wound infections.

Preadmission certification will be required on some elective admissions. Most reviews will be performed on a retrospective basis. At least quarterly, monitoring of the objectives will be performed to identify areas requiring further intervention. A graduated intervention plan will be implemented for physician and provider education and sanctions.

Now and in the coming years, every physician will be challenged to become involved in peer review. Understanding the Foundation's responsibilities and policies will help this involvement. It is our belief that as many physicians as possible should be involved in Foundation activities. Responsibilities placed on the Foundation will have far-reaching effects on medical practice and patient care in the next two years. It is important that physicians all over the state provide their ideas and intelligence to the organization and its work.

For its part, the Foundation will continue to foster communication and physician involvement through its regional offices, local peer review organizations, and the state and county medical societies. ■

> "It is important that every physician in the state understand the contract between the government and the Foundation."

Letters to the Editor

Help is available for the ventilator-dependent patient

Dear Dr. Burkey:

Recently, medical science has progressed tremendously to the point that some patients, such as respiratory failure patients who years ago inevitably had to die, can now be placed on a ventilator temporarily until they recover from the acute phase. If they cannot recover, they still can live on a ventilator for years.

As physicians, we have the responsibility to try our best to preserve life. Legally we are required to use all available knowledge and techniques for the patient. For these reasons, we will see more and more patients on ventilators in the future. Some of these patients are easily weaned off once the primary disturbance has been corrected.

When a patient cannot be weaned, most hospitals leave the patient in the intensive care unit month after month. This can be a burden, both financially and psychologically, for the patient, his family and society.

Once the patient has passed the acute state and become stable, he does not need to be in ICU with the sophisticated monitors and highly qualified nurses' 24-hours-a-day observation. Psychologically speaking, these patients are better off being cared for in a place where they can have their own privacy, yet with well-trained personnel available to them at all times. It is safe and the cost of health care can be cut down considerably.

Complying to the need for such a place, the Missouri State Chest Hospital at Mt. Vernon has established a unit with up-to-date respiratory equipment, physicians, nurses, respiratory therapists and physical therapists. At present, the hospital has 17 patients on ventilators. These patients came from every corner of Missouri, including Kansas City, St. Louis, Columbia, Joplin, Springfield, and Poplar Bluff.

Some of these patients, the so-called "ventilator-dependent," have been weaned from the machine and sent home. Most of the patients that we could not help simply had nothing left for us to work with. We feel that we could do more for them if we had treated them before any serious complications, such as massive pneumonia or renal failure, occurred.

For those who are truly ventilator-dependent, we try our best to make their lives more enjoyable. Some patients have been on the machine for seven years. Even in this group of patients, some are able to become independent of the ventilator for six to 12 months.

We also offer a training program for those patients who want to be cared for at home on the ventilator. Several patients have taken this advantage and are doing well, at home.

The Missouri State Chest Hospital welcomes referrals for admission of all types of respiratory patients, especially those on ventilators. With the special skills available here, we feel we can offer these patients many advantages in the care of their respiratory problems.

For further information call the Hospital Director, Donald C. Lamkins, (417) 466-3711.

Boonmee Enkvetchakul, M.D.
Mt. Vernon, Missouri

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Andrew McCanse, M.D.
Kansas City

Disability & Workers' Compensation:

The Role of Missouri Physicians

One of my patients I particularly remember in my twenty-plus years of surgical practice was a man in his early fifties. I operated on him for acute appendicitis, and his recovery was uneventful. He was a husky gentleman, soft-spoken and one of those people who was enjoyable to be around. I noticed on his office record that he had retired from a national steel company. He told me he had retired several years before on total and permanent disability payments because of arthritis in his neck.

I didn't see him again until six or seven years later when he was referred to me for treatment of a carcinoma of the colon. I asked him about his arthritis. He said he had been asymptomatic for nearly 10 years and, in fact, had recently poured concrete for a new front walk to his house.

He made an uneventful recovery from the second surgery. I continued to see him periodically for two or three years, and he remained in good health.

The AMA House of Delegates adopted a resolution in 1979 encouraging "physicians everywhere to advise their patients to return to work at the earliest date compatible with health and safety." The resolution stated that, according to the Bureau of Labor Statistics, more than half a billion work days are lost each year. The National Safety Council estimates the cost of lost days at $21 billion.

The Missouri State Medical Association adopted a similar resolution last April. This resolution seeks to inform Missouri physicians about what they might do to promote cost containment by helping to reduce unnecessary sick leave, disability and worker absenteeism.

About a year and a half ago, I became a full-time occupational physician, employed by an automobile company. I have learned a great deal about the subject of worker absenteeism in the past eighteen months that I'd like to share.

First, many companies have Employee Assistance Programs. These programs are designed to help employees who have personal problems that interfere with their work. Many of the programs evolved from previous alcohol recovery programs and provide a non-punitive approach toward helping the worker with an alcohol problem. Two of the most common manifestations of alcoholism in the workplace are chronic tardiness and absenteeism. Many job supervisors now receive training in dealing with these employees. They learn that the worker must be judged purely on performance and must not be "diagnosed" as having a personal problem. Help is then offered if the employee believes he or she has a problem causing poor job performance.

In many national companies, an outgrowth of the Employee Assistance Program is an Absentee Control Program, in which certain benefits may be withheld from workers who are absent without reasonable medical cause. Management and union Representatives agree to such a program before it is implemented.

To discourage the abuse of sick leave, most companies do not give a full paycheck to the worker who is absent on sick leave. Instead, the worker usually receives approximately two-thirds of the regular pay. In most cases, a worker does not qualify for sick leave pay until he or she has been out for perhaps as long as one week.

An incentive for attendance has been built into some of the new automobile workers' contracts, with cash rewards given for perfect attendance on the job. The dollar outcome of this arrangement hasn't yet been determined but it seems to make good sense.

Physicians should be aware that Workers' Compensation Insurance pays not only for medical expenses and any permanent disability, but also for time lost from the workplace. Three states have adopted laws that provide for payment of expenses and actual wages lost until the employee returns to work. Under these laws, if the worker is unable to return to a job at his preinjury pay scale, his lower wages are supplemented by Workers' Compensation Insurance.

Physicians should also realize that determination of total and permanent disability is made by the corporate physician and the Social Security Administration. Their decisions are not necessarily tied together, however, and the corporate medical director in some companies makes the final decision on all applications for total and permanent disability.

Both unions and management recognize that unwarranted absenteeism is detrimental to business as well as to the public, who eventually pays for the products or services offered by these workers. In many places now union and management are making a joint effort to reduce absenteeism to an absolute minimum.

How can physicians help? A few suggestions follow:

☐ Approve the patient's return to work as soon as your medical judgment dictates. If that is on a Friday, do not wait until the following Monday to approve the return.
☐ Resist the suggestion to extend the leave beyond the usual recovery period, unless unexpected complications arise.
☐ Recommend that the worker return to restricted duty, rather than approving additional leave. Name the specific restriction and how long it will apply. Many companies accommodate these requests.
☐ If the patient says that he or she has a personal problem that warrants further sick leave, ask him or her to inquire about assistance at work.
☐ Do not excuse absences for medical reason without seeing the patient, and do not make medical excuses retrospectively.
☐ If you believe it will help you make a decision, call the company doctor or the personnel department about what this patient's duties will be upon returning to work.
☐ Visit the workplace. You will find a receptive attitude by the company and you may learn something about how a given business operates.

Current efforts at controlling worker absenteeism and abuse of sick leave and disability pay seem a far cry from cases such as my patient who retired on disability payments for arthritis that no longer affected him. It is a continuous and long-learning process for most businesses to deal with these sensitive problems.

I hope Missouri physicians realize they are a vital factor in helping industry reduce the costs of unwarranted absences. ■

Medical School News

University of Missouri-Kansas City

- University of Missouri-Kansas City Chancellor **George Russell, Ph.D.** recently announced that **Harry S. Jonas, M.D.**, has agreed to remain as dean of the School of Medicine until Oct. 1, 1987. This extends, by two years, the seven-year term for the deanship called for in the Academic Plan.

- Seven administrators from Harvard University visited the UMKC School of Medicine recently to learn about the School's physical plan and teaching methods and procedures. Harvard Medical School's "New Pathways" program begins next fall. Its emphasis will include an integrated approach to the sciences and humanities, as well as small-group problem-solving learning methods (as opposed to traditional lectures), such as those used at UMKC. The visitors met with Dean Jonas, provost emeritus **E. Grey Dimond, M.D.**, and other faculty and staff members. They also toured the School and Truman Medical Center. Members of the Harvard delegation visited other teaching hospitals, but the visits were not as extensive as the one at UMKC.

- Several administrators have accepted professional posts recently. Dean Harry S. Jonas, M.D. was elected chairman of the Midwest-Great Plains Council of Deans at the recent meeting of the American Association of Medical Colleges (AAMC). In this post, Dr. Jonas' areas of responsibility will range from planning the council's 1985 fall meeting to working with pressing issues that affect medical schools.

- In addition, **James Mongan, M.D.**, executive director of Truman Medical Center, was appointed a board member of the Council of Teaching Hospitals (COTH). The Association of American Medical Colleges Council meets several times each year to discuss appropriate action on problems and issues important to teaching hospitals. The three-year appointment is effective Jan. 1, 1985.

- Stephen Hamburger, M.D., a UMKC School of Medicine docent and chief of Truman Medical Center's Department of Internal Medicine, recently accepted two professional posts. Dr. Hamburger's election as president of the Missouri Society of Internal Medicine became effective Oct. 12, 1984. The three-year appointment follows his positions as both secretary-treasurer and president-elect of the organization. In addition, Dr. Hamburger was appointed for two years as an AMA representative on the Residency Review Committee for Internal Medicine/Accreditation Council for Graduate Medical Education. The committee plays an important role in maintaining the quality of graduate medical education.

- The UMKC School of Medicine sent a delegation of faculty members and students to the October 1984 meeting of the American Association of Medical Colleges (AAMC) in Chicago. Several faculty members made presentations and had exhibits on display. In addition, Dean Harry S. Jonas, M.D. and his wife hosted the delegation, along with some Chicago-area alumni, for dinner during the meeting.

St. Louis University

- **Stephen M. Ayres, M.D.**, chairman of the Department of Internal Medicine, recently participated in a Critical Care Symposium sponsored by the Southeast Missouri Foundation for Medical Care in Sikeston, Mo. Dr. Ayres presented two seminars, "Sequential Organ Failure" and "Adult Respiratory Distress Syndrome."

- **Maurice Green, Ph.D.**, professor and chairman of the Institute for Molecular Virology, delivered two presentations at the Squamous Carcinoma Conference held in Chicago during October. Dr. Green addressed the detectability of papillomaviral DNA/RNA and nonstructural proteins and prospects of developing a synthetic peptide vaccine.

- **James Drake, M.D.**, assistant professor of internal medicine, has been elected to Fellowship in the 60,000 member American College of Physicians. Dr. Drake will be honored during the convocation ceremony at the College's annual session in Washington, D.C. in March.

- Several St. Louis University School of Medicine physicians were chosen to present a variety of abstracts at the American Heart Association's 57th Annual Scientific Sessions held in Miami, Fla., November 1984.

- **Jerome D. Cohen, M.D.**, associate professor of internal medicine, presented "Health Habits of Medical Students: Will Future Physicians Be Excellent Role Models?" Dr. Cohen also presented "Will Medical Students' Attitudes Toward Prevention Be More Positive Than Those of Practicing Physicians?"

- **Harold Kennedy, M.D.**, chief of the Division of Cardiology, presented "Sudden Death in Young Persons in the St. Louis Metropolitan Area." This study was the first to include findings of an entire population and to look at other causes of sudden death besides cardiovascular ones.

- **Michel G. Vandormael, M.D.**, assistant professor of internal medicine, presented "Complex Coronary Angioplasty: Immediate and Six-Month Functional Results."

- **Arthur Labovitz, M.D.**, assistant professor of medicine, and **Dhanasarn Mongkolsmai, M.D.**, a fellow in cardiology, presented "Right Ventricular Ejection Fraction by Two-Dimensional Echocardiographic Subtraction Method."

The University of Missouri-Columbia

- **Weldon D. Webb** has been appointed assistant dean at the University of Missouri-Columbia (UMC) School of Medicine, announced Dean William Bradshaw. Mr. Webb will serve as assistant dean for external affairs. He has been interim director of Continuing Education and Extension for the Health Professions at the School of Medicine and coordinator for Alumni Affairs and Development since May 1983. He has held the positions of assistant director, instructor and conference coordinator for Continuing Education and Extension for the Health Professions.

■ **Timothy R. Rooney** has been appointed to serve as assistant dean for administration. He has been assistant foundation director at the Eye Research Foundation Inc. in Columbia since November 1980 where he was responsible for all administrative and financial affairs of the Foundation.

Mr. Rooney also has held the positions of manager of financial reporting for the UMC Hospital and Clinics, manager of the UMC Medical Center Accounting Office and senior accountant and fiscal analyst, both in the Office of the Vice President for Finance and Comptroller at UMC.

■ **David Davis, M.D.,** professor and associate chair of the UMC Department of Psychiatry and director of psychiatric education, served as visiting professor and invited consultant to the Menninger Foundation's psychiatric training program in Topeka, Kan. He conducted a case conference for staff, residents and medical students and presented a research paper on "Perception of Cognitive Defects in Alcoholics" as part of the Foundation's continuing education program.

■ *Town and Country* magazine included four UMC School of Medicine faculty members among its list of the best doctors in the United States. Published in the May and June issues of the magazine, the guide cited **Karl Nolph, M.D.,** professor of nephrology in the Department of Medicine; **Howard Reber, M.D.,** professor of surgery and chief of surgical services at Truman Veterans Hospital; **Gordon Sharp, M.D.,** professor of rheumatology in the Department of Medicine; and **Clark Watts, M.D.,** chief of the division of neurological surgery.

■ Ten students received summer research grants from the UMC Research Council. They were **Kenneth Neu,** Springfield; **Peggy Latare,** Raytown; **Karina K. Uldall,** St. Peters; **James H. Boyd,** Cape Girardeau; **George Kichura,** St. Louis; **Michael Copeland,** Independence; **Kendall Ijoku,** Ballwin; and **Denise Bennett, Mark Stroble** and **Nancy Valente,** all of Columbia.

■ **Frank L. Mitchell, Jr., M.D.,** professor of surgery, received a 1984 Faculty-Alumni Award from the UMC Alumni Association. The awards are given annually to recognize faculty and alumni for their actual and potential accomplishments in their professions, in the community and in service to UMC.

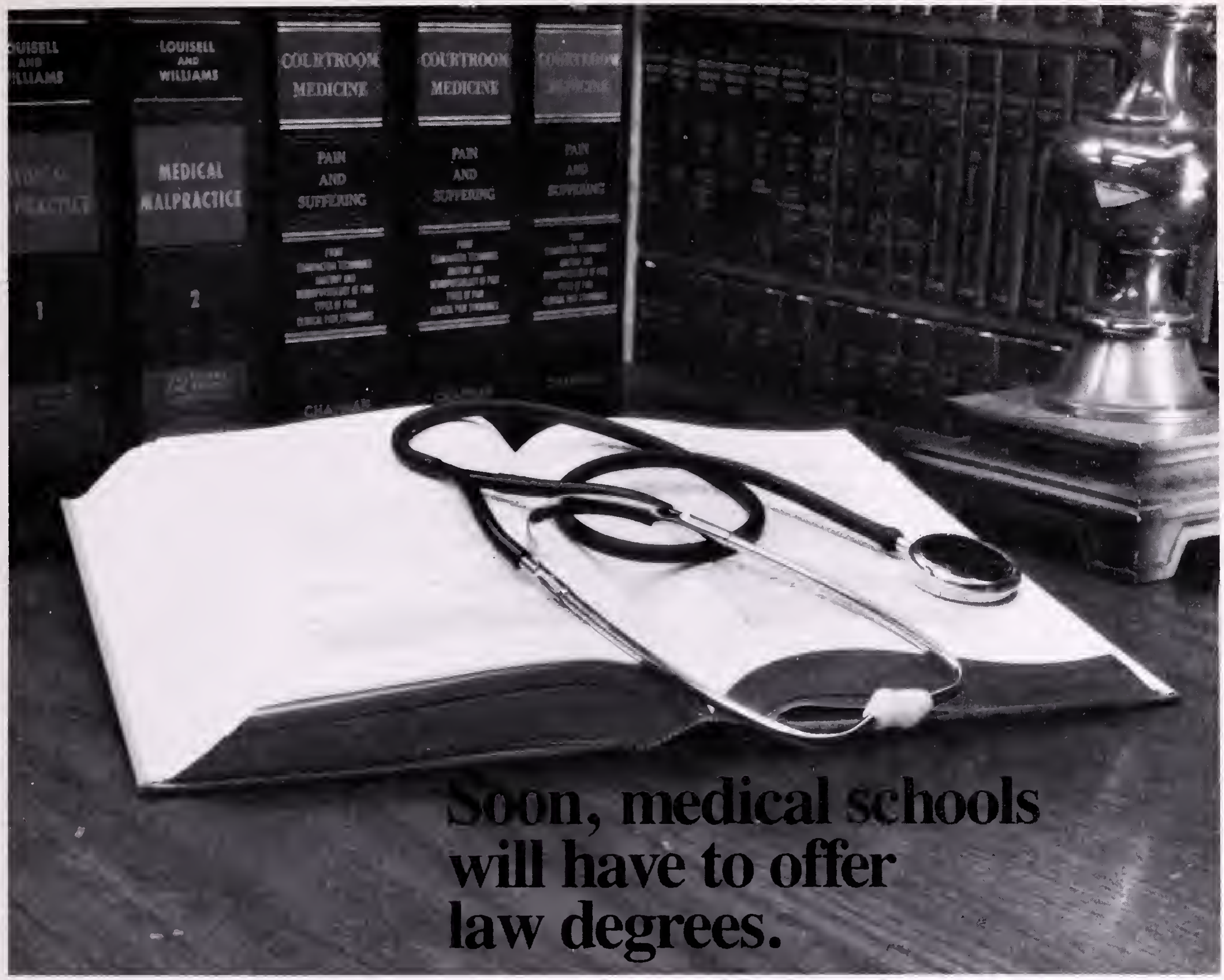
Washington University

■ Noted diabetes researcher **C. Ronald Kahn, M.D.,** delivered the 12th Annual Carl V. Moore Memorial Lecture Nov. 30, 1984 at the School of Medicine. Dr. Kahn is professor of medicine at Harvard Medical School and research director of the Joslin Diabetes Center in Boston. The title of his lecture was "The Insulin Receptor as an Insulin Sensitive Enzyme: Biochemical Implications." Dr. Kahn's research concentrates on insulin receptors and insulin action, insulin-like growth factors, diabetes mellitus, hypoglycemia, and immunity and autoimmunity in endocrine disorders.

■ Three staff members of the epidermolysis bullosa center at Washington University School of Medicine traveled to Washington, D.C. to help observe National EB Awareness Week Nov. 25, 1984. The week was sponsored in conjunction with the first national conference of the Dystrophic Epidermolysis Bullosa Research Association. The Washington University representatives were **Eugene A. Bauer, M.D.,** director of the EB center; **Maxine Tabas, M.D.,** a research fellow at the medical school; and **Sheila Gibbons, L.P.N.,** patient coordinator.

Washington University founded one of the first centers in the nation for research and treatment of EB in 1983. There is very little treatment and no known cure for EB, often called the "thin skin disease." A rare genetic skin disease, it causes blistering, scarring and destruction of the skin and mucous membranes of the gastrointestinal, urinary and respiratory tracts. Fourteen varieties of the life-threatening disease afflict 25,000 to 50,000 patients, mostly children, in the United States alone.

Dr. Bauer and other scientists at Washington University center are trying to learn the cause of EB in hopes of one day finding a cure, or at least an effective treatment. So far, researchers have identified several specific forms of EB by performing biochemical tests on patient tissue.



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In Memoriam

- **Gerald A. Yaeger, M.D.,** 2444 W. Clay, St. Charles 63301; 1950 graduate of Washington University; member of the St. Charles-Lincoln County Medical Society; age 60; died Oct. 31, 1984.
- **Mark M. Marks, M.D.,** 7801 Holmes, Kansas City 64131; graduate of the University of Oklahoma, 1928; member of Jackson County Medical Society; aged 82; died Oct. 9, 1984.
- **Charles K. Holbrook, M.D.,** 11339 Larimore Rd., Spanish Lake 63138; graduate of St. Louis University, 1952; member of St. Louis Metropolitan Medical Society; aged 58; died Oct. 12, 1984.
- **Francis J. Berney, M.D.,** 1225 North 10th St., St. Joseph 64501; graduate of Creighton University, 1925; member of Buchanan County Medical Society; aged 82; died Oct. 16, 1984.

Portraits

"Portraits," a new regular feature of MISSOURI MEDICINE begins with this month's issue (see page 46). Each month, one MSMA member will be highlighted. If you are a member of MSMA, and enjoy an unusual or interesting pastime or hobby, please write to "Portraits," MSMA, P.O. Box 1028, Jefferson City 65102.

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HOW A STUDENT WHO COULDN'T LEARN TAUGHT EVERYONE AN IMPORTANT LESSON.

Everyone thought Matthew Francisco was failing school.

But was he really?

You see, Matthew has a learning disability. And no matter what his parents and teachers did, his problem only seemed to worsen. (Matthew even started running away from home to avoid school.)

Finally Matthew's mother, Barbara, did some homework of her own and got in touch with the Minnesota Association for Children and Adults with Learning Disabilities, a United Way supported agency.

The Association helped Barbara deal with Matthew at home and his teachers deal with him at school.

Before long Matthew was solving problems in school instead of just being one.

And through her involvement with The Association, Barbara now schools other parents with learning disabled children.

This is just one of thousands of similar stories from all over the country.

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Matthew, his parents and his teachers thank you.

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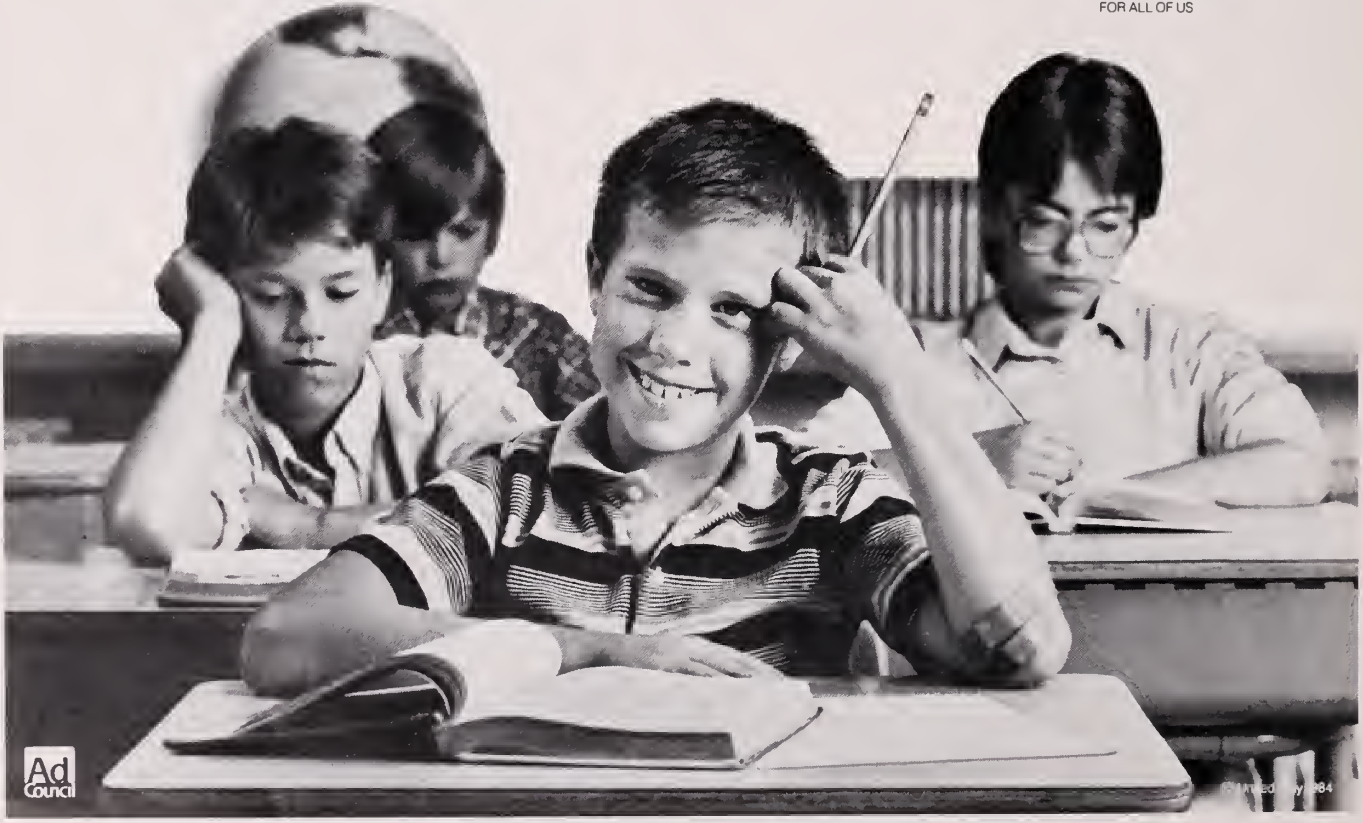

New Members

■ **Thomas P. Allen, M.D.,** 6724 Troost, Suite 500, Kansas City, 64131, has become a member of Jackson County Medical Society. Dr. Allen is a native of Milbank, S.D. He received his preliminary education at Dartmouth College and his medical degree at Tufts University in 1978. His specialty is internal medicine.

■ **Mary E. Becker, M.D.,** 3908 S. Grand, St. Louis 63118, has become a member of St. Louis Metropolitan Medical Society. Dr. Becker is a native of Sacramento, Calif. She received her preliminary education at the University of Rochester and her medical degree at the University of Rochester in 1981. She specializes in family practice.

■ **John P. Bray, M.D.,** St. Joseph Hospital, 5325 Faron, St. Joseph 64501, has become a member of Buchanan County Medical Society. Dr. Bray is a native of Denver, Colo. He received his preliminary education at Cloud County Community College and his medical degree at the University of Kansas in 1981. He specializes in anesthesiology.

■ **Charles E. Canter, M.D.,** 35 N. Central, Clayton 63105, has become a member of St. Louis Metropolitan Medical Society. Dr. Canter is a native of Independence, Mo. He received his preliminary education at Brown University and his medical degree at St. Louis University in 1979. He specializes in pediatrics and pediatric cardiology.

■ **Marvin D. Combs, D.O.,** 606 N. College, Albany 64402, has become a member of Northwest Missouri Medical Society. Dr. Combs is a native of Worth, Mo. He received his preliminary education at Northwest Missouri State University and his osteopathic degree at Kansas City College of Osteopathy in 1967. He specializes in general practice.

■ **Arlen D. Denny, M.D.,** 4177 Broadway, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Denny is a native of Hartley, Iowa. He received his preliminary education at the University of Minnesota and his medical degree at the University of Minnesota in 1976. He specializes in plastic and reconstructive surgery.

■ **Arundev D. Desai, M.D.,** St. Francis Hospital, Maryville 64468, has become a member of Northwest Missouri Medical Society. Dr. Desai is a native of Sachin, India. He received his preliminary education at B.J. Medical College and his medical degree at Gujarat University in 1970. He specializes in anesthesiology.

■ **Stephen A. Dolan, M.D.,** 1505 Westwinds, Columbia 65201, has become a member of Boone County Medical Society. Dr. Dolan is a native of Leominster, Maine. He received his preliminary education at Worcester Polytechnic Institute and his medical degree at the University of Vermont in 1979. He specializes in infectious diseases.

■ **Michael D. Jones, M.D.,** 510 Francis, St. Joseph 64501, has become a member of Buchanan County Medical Society. Dr. Jones is a native of Neosho, Mo. He received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1980. He specializes in obstetrics and gynecology.

■ **Narinder S. Kapoor, M.D.,** 115 Business Loop 70 West, Columbia 65201, has become a member of Boone County Medical Society. Dr. Kapoor is a native of Delhi, India. She received her preliminary education at the University of Toronto and her medical degree at the university of Toronto in 1976. She specializes in family practice.

■ **Janet E. Klemm, M.D.,** 12372 Turtle Creek, St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Klemm is a native of Champaign, Ill. She received her preliminary education at Purdue University and her medical degree at Indiana University in 1977. She specializes in anesthesiology.

■ **Harold G. Koenig, M.D.,** 1312 Pearl, Columbia 65201, has become a member of Boone County Medical Society. Dr. Koenig is a native of Lodi, Calif. He received his preliminary education at Stanford University and his medical degree at the University of California-San Francisco in 1982. He specializes in family practice.

■ **Darryl N. McKinney, M.D.,** 2500 Hadley, St. Louis 63106, has become a member of St. Louis Metropolitan Medical Society. Dr. McKinney is a native of Atlanta, Ga. She received her preliminary education at Yale University and her medical degree at Washington University in 1980. She specializes in obstetrics and gynecology.

■ **Tom V. Morrison, M.D.,** 427 Cahil, Branson 65616, has become a member of Tri-Lakes Medical Society. Dr. Morrison is a native of Gainesville, Mo. He received his preliminary education at Abline Christian College and his medical degree at the University of Tennessee in 1973. He specializes in ophthalmology.

■ **Stephen P. Nicholas, M.D.,** 1035 Bellevue, Suite 316, St. Louis 63117, has become a member of St. Louis Metropolitan Medical Society. Dr. Nicholas is a native of St. Louis. He received his preliminary education at St. Louis University and his medical degree at the University of Athens in 1978. He specializes in internal medicine and gastroenterology.

■ **William F. Rippe, M.D.,** 5301 Faraon, St. Joseph 64501, has become a member of Buchanan County Medical Society. Dr. Rippe is a native of Ann Arbor, Mich. He received his preliminary education at the University of Michigan and his medical degree at the University of Michigan in 1977. He specializes in internal medicine.

■ **Robert W. Ruess, M.D.,** 25 Doctors' Park, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Ruess is a native of Los Angeles, Calif. He received his preliminary education at the University of California-Los Angeles and his medical degree at the University of California-Irvine in 1969. He specializes in thoracic surgery.

■ **Robert B. Russell, D.O.,** Southeast Missouri Hospital, 1701 Lacey, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Russell is a native of Ontario, Ore. He received his preliminary education at the University of Washington and his osteopathic degree at Chicago College of Osteopathy in 1977. He specializes in anesthesiology.

■ **Dharmasumvardhini Sankaran, M.D.,** 9101 S. Broadway, St. Louis

63125, has become a member of St. Louis Metropolitan Medical Society. Dr. Sankaran is a native of Bangalore, India. She received her preliminary education at Massachusetts College of Pharmacy and her medical degree at Bangalore Medical College in 1970. She specializes in physical medicine and rehabilitation.

■ **Kumkum J. Shroff, M.D.,** 533 Couch, Kirkwood 63122, has become a member of St. Louis Metropolitan Medical Society. Dr. Shroff is a native of Bombay, India. She received her preliminary education at St. Xavier's College and her medical degree at Grant Medical College in 1967. She specializes in obstetrics and gynecology.

■ **Linda L. Stronach, M.D.,** 1031 Bellevue, Suite 260, St. Louis 63117, has become a member of St. Louis Metropolitan Medical Society. Dr. Stronach is a native of Fairborn, Ohio. She received her preliminary education at Brown University and her medical degree at Brown University in 1977. She specializes in internal medicine, cardiology, and critical care medicine.

■ **Edwin C. Wingkun, M.D.,** 1221 S. Grand, St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Wingkun is a native of Bacolod City, Philippines. He received his preliminary education at the University of Santo Tomas and his medical degree at the University of Santo Tomas in 1982. He specializes in neurology.

■ **Robert E. Ziegler, M.D.,** 512 Tuxedo, Webster Groves 63119, has become a member of St. Louis Metropolitan Medical Society. Dr. Ziegler is a native of Atlanta, Ga. He received his preliminary education at the University of Colorado and his medical degree at Duke University in 1980. He specializes in internal medicine and dermatology.

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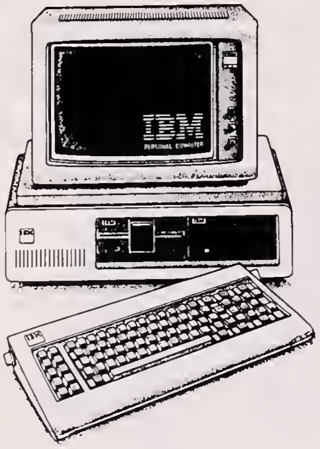

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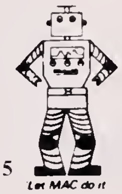
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Physician's Recognition Awards

Seventy-four MSMA members qualified for the MSMA-AMA Physician's Recognition Award during October 1984.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Audrain

Nancy Bunge, *Mexico*

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William C. Bucher, *Columbia*
Lewis J. Garrotto, *Columbia*
Greg A. Love, *Columbia*
Michael C. Perry, *Columbia*

Buchanan

Theodore C. Kiekhaefer, *St. Joseph*

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Soung O. Kwoun, *Poplar Bluff*
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Edward D. Campbell, *Cape Girardeau*
James E. Palen, *Cape Girardeau*

Clay-Platte

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Charles J. Siegel, *Gladstone*

Cole

Royal S. Garner, *Jefferson City*

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Howard N. Short, *Washington*

Greene

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Edmond B. Cabbabe, *St. Louis*
Samuel A. Canaan, *St. Louis*
Juan Carden, *St. Louis*
Nicholas J. Colosi, *St. Louis*
Phillip Comens, *St. Louis*
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Dennis A. Dusek, *St. Louis*
Robert M. Feit, *St. Louis*
James A. Felts, *St. Louis*
LeRoy L. Fink, *St. Louis*
John A. Gragnani, *Ellisville*
Robert L. Grubb, *St. Louis*
Milton Kardesch, *St. Louis*
Antonio Q. Manansala, *Arnold*
Theodore L. Paletta, *St. Louis*
Meredith C. J. Payne, *St. Louis*
David M. Reisler, *Chesterfield*
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Robert E. Ryan, *St. Louis*
Nitai C. Saha, *St. Louis*
Jacques P. Schaerer, *St. Louis*
Bernd Silver, *St. Louis*
James C. Sisk, *Clayton*
Julia M. Stanley, *St. Louis*
Newton B. White, *St. Louis*
David L. Wilkinson, *St. Louis*

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Letters to the Editor

What do you think?

Address your comments to:

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An Invitation . . .

The Editorial Board of *Missouri Medicine* invites the members of the Missouri State Medical Association to submit examples of their art work for publication on the cover of *Missouri Medicine.* Color photographs, preferably transparencies, as well as photographs of paintings, drawings, sculpture, ceramics, jewelry, etc. are all welcome. There is no limit as to subject, although pictures of Missouri or subjects topical to a month or season may have a slight advantage. Please submit entries to "Cover," *Missouri Medicine*, P.O. Box 1028, Jefferson City, MO 65102.

Continuing Medical Education

January

10 **Hypertension: A Life-Long Problem** — Clayton Inn, St. Louis. Contact: Anita Herbst, CME, St. Louis University School of Medicine, 1409 S. Grand Blvd., St. Louis 63104. 314-664-9800, ext. 167.

10-16 **Endocrine Aspects of Ovarian Dysfunction Syndromes** — Puerto Vallarta, Mexico. Contact Loretta Giacoletto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

14 **City-Wide Radiology Conference** — St. Louis University. Contact: Ronald G. Evens, M.D., Director, The Edward Mallinckrodt Institute of Radiology, Washington University School of Medicine, 510 S. Kingshighway, St. Louis 63110. 314-362-7100.

19 **Laser Surgery** — Contact: Joy W. Barnett, CME Coordinator, Freeman Hospital, 1102 W. 32nd St., Joplin 64801. 417-623-2801.

20-26 **Contemporary Issues in Obstetrics and Gynecology** — Sheraton Hotel, Ixtapa, Mexico. Contact: Jan Johnston, CME Office, University of Kansas, Rainbow at Olathe Blvd., Kansas City, KS 66013. 913-588-4488.

26-Feb. 2 **Traveling Medical Education Course** — Steamboat Springs, Colo. Contact: Alta Bingham, CME, UMKC School of Medicine, Kansas City Southwest Clinical Society, 2220 Holmes St., Kansas City 64108. 816-276-1339.

February

6-8 **Fifth National Conference on CAPD** — Kansas City. Contact: Weldon Webb, M.D., Director, CME, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212.

7 **St. Luke's Clinical Conference** — St. Luke's Hospital. Contact: Loretta Giacoletto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

9-10 **Midwinter Vitrectomy Workshop** — Breckenridge Frontenac. Retina Research & Development Foundation, 4949 Barnes Hospital Plaza, East Pavilion, Suite 17413, St. Louis 63110.

9-16 **Traveling Medical Education Course** — Cancun, Mexico. Contact: Alta Bingham, UMKC School of Medicine, Kansas City Southwest Clinical Society, CME Office, 2220 Holmes St., Kansas City 64108. 816-276-1339.

11 **City-Wide Radiology Conference on Digital Radiography** — Contact: Ronald G. Evens, M.D., Director, The Edward Mallinckrodt Institute of Radiology, Washington University School of Medicine, 510 S. Kingshighway, St. Louis 63110. 314-362-7100.

13-14
21-22 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Contact: Jan Johnston, Office of Continuing Medical Education, University of Kansas, Rainbow at Olathe Blvd., Kansas City, KS 66103, 913-588-4488.

22-23 **The Long Weekend** — Alameda Plaza Hotel, Kansas City. Contact: Alta Bingham, CME, UMKC School of Medicine, Kansas City Southwest Clinical Society, 2220 Holmes St., Kansas City 64108. 816-276-1339.

March

2-3 **Eighth Annual Family Practice Update Session** — Columbia. Contact: Weldon Webb, M.D., Director, CME, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212.

2-9 **General Pediatrics and Family Practice Review and Update** — Cancun, Mexico. Contact: Marge Adey, Center for Continuing Education, University of Nebraska Medical Center, 42nd and Dewey Ave., Omaha, NE 68105. 402-559-4152.

4 **Internal Medicine Review** — Monday evenings through May 20 at Washington University. Contact: Loretta Giacoletto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

9 **Industrial Injuries of the Hand** — Washington University. Contact: Loretta Giacoleto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3843.

11 **City-Wide Radiology Conference on "Interventional Radiology"** — St. Louis University. Contact: Ronald G. Evens, M.D., Director, The Edward Mallinckrodt Institute of Radiology, Washington University School of Medicine, 510 S. Kingshighway, St. Louis 63110. 314-362-7100.

14-15 **Current Management in Critical Care** — Kansas City Alameda Plaza Hotel. Contact: Alta Bingham, CME, UMKC School of Medicine, Kansas City Southwest Clinical Society, 2220 Holmes St., Kansas City 64108. 816-276-1339.

The continuing medical education accreditation program of the MSMA has full approval by the AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. Please remember to include the name of the individual who can be contacted at your institution for additional information about your CME events.

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In addition, in view of *The Copyright Revision Act of 1976*, effective Jan. 1, 1978, transmittal letters to the editor should contain the following language: "In consideration of the Missouri State Medical Association's taking action in reviewing and editing my submission, the author(s) undersigned hereby transfers, assigns or otherwise conveys all copyright ownership to the MSMA in the event that such work is published by the MSMA." We regret that transmittal letters not containing the foregoing language signed by all authors of the submission will necessitate delay in review of the manuscript. Please include the title of the article in the transmittal letter.

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Manuscripts should be typewritten, double spaced, and the original with one copy submitted. Retain another copy for proofreading. Please number the pages of your manuscript. Manuscripts are not returned. Hospital and University appointments of the author(s) should accompany the manuscript. A synopsis-abstract of no more than 75 words should accompany the manuscript.

References

References should be cited in numerical order in the text and arranged at the end of the article in the same order in which they are cited. The reference should give name of author, title of article, name of periodical, volume number, initial page number and year. Authors are responsible for reference accuracy.

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Reprint order blanks will accompany proof, which will be sent to authors prior to publication.

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Editorials should be written in clear, concise language. Length should be about two or three pages typed with double spacing.

Letters

Letters will be published at the discretion of the editor, managing editor, and Editorial Board.

Deadline

All material other than scientific should be received prior to the first of the month preceding month of publication.

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MSMA Annual Convention
April 11-14
Kansas City Hyatt Regency

Hugh Stephenson, Jr., M.D.

Still getting his kicks

Looming in the middle of the expansive, well-groomed front yard of Hugh Stephenson, Jr., M.D., is a regulation size goal post. To some, it may seem out of place. To Dr. Stephenson, it's right at home.

Dr. Stephenson, a Columbia surgeon and AMA delegate, has been fascinated with football for years. In particular, he has been mesmerized by the drop kick, and devoted to the attempt to reinstate it as an integral part of both collegiate and professional sport.

Later this month, Dr. Stephenson will appear before the NCAA Rules Committee to request changes in present regulations which will encourage the revival of the drop kick.

"I would like to see the drop kick point conversion after the touchdown be given two points (the same as is currently given for passing or running for the two-point conversion)," Dr. Stephenson said. "I'll also be asking the Rules Committee to allow a drop kicked field goal to result in a four-point score instead of three."

The surgeon's talent for the art of drop kicking is kept in tune with regular practice in his own front yard. In addition, he has written a 271-page illustrated book, "The Kick That Counts," which clearly supports his argument for the return of the drop kick (pictured above).

In 1983, Dr. Stephenson was asked to work with members of the New Orleans Saints (pictured above, center) in developing some of the players' potential for drop kicking.

If this one-man crusade for the drop kick is successful, perhaps next season we will see the revival of this lost art . . . and we will know who to thank. ■

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Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

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Missouri Medicine

Journal of the Missouri State Medical Association

February 1985

v.82, no2

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How well are physicians swallowing the DRG principle?

Are medical food faddists taking it out on our children?

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Founded by the Missouri State Medical Association

Missouri Medicine

Vol. 82, No. 2 *Journal of the Missouri State Medical Association* February 1985

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The Ovid Bell Press, Inc.
Fulton 65251

Missouri Medicine (ISSN 0026-6620) is published monthly by the Missouri State Medical Association, P.O. Box 1028, 113 Madison St., Jefferson City, MO 65102.

Subscription rates: $15 per year. Interns and Residents, $7.50 per year.

Second class postage paid at Jefferson City, Missouri and at additional mailing offices.

Postmaster: Send address changes to Missouri State Medical Association, c/o Membership Department, P.O. Box 1028, Jefferson City, MO 65102.

The articles published in *Missouri Medicine* represent the opinions of the authors, and do not necessarily reflect the official policy of the Missouri State Medical Association.

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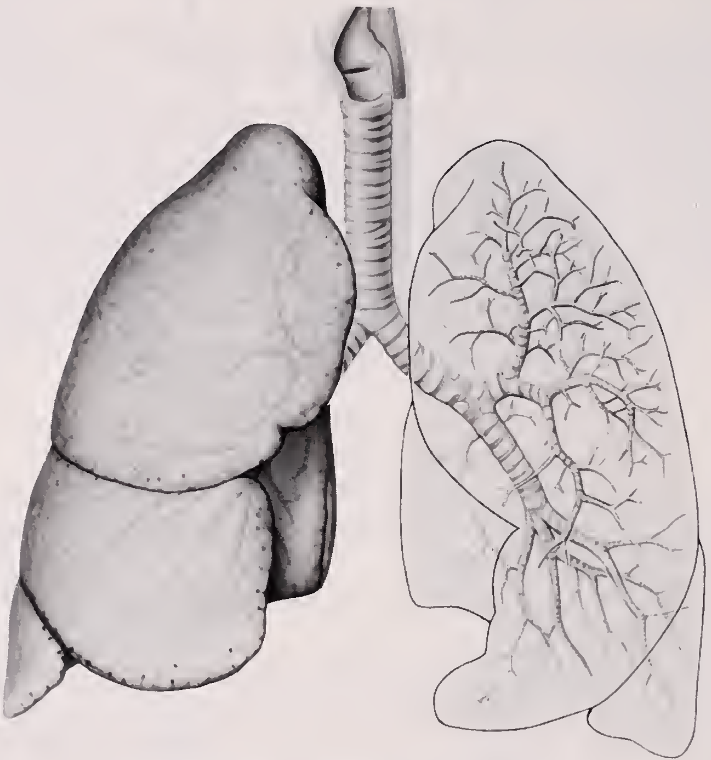
Consider the causative organisms…



Ceclor®
cefaclor
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offers effectiveness against the major causes of bacterial bronchitis

H. influenzae, *H. influenzae*, *S. pneumoniae*, *S. pyogenes*
(ampicillin-susceptible) (ampicillin-resistant)

Brief Summary Consult the package literature for prescribing information

Indications and Usage Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae* and *S pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides semisynthetic penicillins and cephalosporins) therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases management should include sigmoidoscopy appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C difficile* Other causes of colitis should be ruled out

Precautions *General Precautions* – If an allergic reaction to Ceclor® (cefaclor, Lilly) occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e g pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy – Pregnancy Category B – Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor® (cefaclor, Lilly) There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers – Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0 18 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor is administered to a nursing woman

Usage in Children – Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions. Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and frequently fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain – Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic – Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic – Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal – Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[061782R]

Note Ceclor® (cefaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

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MDs are getting involved with legislative system

The "Physician Involvement Program" (PIP) will begin active operation this month as an Association effort to gain more medical influence in the Missouri General Assembly.

"If you are interested in professional liability, peer review protection, expansion of practice by limited practitioners or other important legislation," says Jack N. Wiles, M.D., "you will want to volunteer for PIP." Dr. Wiles is chairman of the MSMA "Key Contact" Committee.

"PIP is a grass-roots type of program where we intend to have MSMA members meet and discuss legislative issues directly with their legislators in the State Capitol," explained Wiles. "We hope that we can have between five and 10 physicians come to Jefferson City each Wednesday during the Legislative Session."

Physicians who agree to participate in PIP will gather at MSMA Headquarters at 8:30 a.m. each Wednesday for coffee and a briefing by MSMA staff. The physicians will then be taken to the Capitol to meet their senator and representative, observe the House and Senate in session, and attend key committee meetings.

PIP is an effort to counter the belief that physicians are "too busy" to be interested in good legislation. Over the years, few physicians have visited their legislators while proponents of measures opposed by medicine have increased their involvement. Since the only way lawmakers can decide what their constituents desire is by hearing from those constituents, PIP is designed to provide "medicine's views."

"I want potential volunteers to realize that the Association will arm them with sufficient information to discuss the key issues with their legislators," Dr. Wiles emphasized. "We know that the most effective contact is person-to-person and we are going to make every effort to make PIP a success."

If you are interested in participating in PIP, please contact C. C. Swarens at MSMA. Either write MSMA, P.O. Box 1028, Jefferson City, MO 65102 or telephone (314) 636-5151. ■

New brochures to help patients

DRGs, HMOs, PPOs. If these issues confuse you, just think how confused your patients must be.

To help your patients understand the alphabet soup of today's health care issues, the MSMA has produced two new brochures.

"What in the World is a DRG?" explains the Medicare hospital reimbursement system using DRGs. The brochure is written in an easy-to-follow, question-and-answer format and is designed to make this complex topic understandable. At the same time, the brochure reassures patients that the care they receive from their personal physicians will remain top priority, whatever the Medicare payment plan.

The second brochue, "Making Plans," emphasizes the importance of planning for family health care. It covers, in general terms, several available options — from traditional health insurance to HMOs, PPOs and IPAs. The brochure's balanced approach is designed to help your patients make educated, informed choices about their health care policies.

These brochures are now available from the MSMA for 10 cents per copy. Send your check or money order to: MSMA Brochures, P.O. Box 1028, Jefferson City, MO 65102. Be sure to indicate which brochure (or both) you are ordering. ■

Doctor shortage continues in rural Missouri

Despite a statewide increase in the number of physicians serving Missouri, 24 counties suffered losses of physicians from 1976 to 1981, according to a report published in the December 1984 issue of the *American Journal of Public Health.* All but one of the 24 counties suffering a physician loss had a population of less than 25,000. Half of the counties had populations of less than 10,000.

The report by Lanis L. Hicks, assistant professor of health services management at the University of Missouri, states "there is a continued increase in the number of physicians locating in existing oversupplied areas. The expectation that physicians can be persuaded to locate in small rural areas may be unrealistic. Alternatives to physicians should be considered."

The report suggested the consideration of alternative practitioners as well as "selective recruitment (of physicians), loans tied to a service commitment, and financial and peer support programs tied to a specific underserved area."

The "more severe inadequacies" were in rural counties in the south-central section of the state.

"A factor magnifying the

underservice problem is the sharp increase in the proportion of older physicians located in small, rural counties," the report stated.

About 47 percent of the primary care physicians in counties with less than 10,000 population were 60 years or older in 1981, compared with 34 percent in 1976.

"This portends major problems in the future in obtaining replacements," the report warned. ■

MSMA Council approves the 1985 budget

At a busy and productive December 15 meeting in Jefferson City, the MSMA Council approved the Association's 1985 budget, heard numerous committee and commission reports, and passed several resolutions.

Jay Meyer, M.D., chairman of the Budget and Finance Committee, presented the proposed 1985 budget to the Council. Anticipated income for 1985 is $1,040,990. The recommended budget for the year is $1,035,350.

The Budget and Finance Committee discussed the possibility of Dr. Hubert Ritter running for President-Elect of AMA in 1986. The Committee extended its moral support for his candidacy, and suggested that perhaps $15,000 to $30,000 could be budgeted in 1986 for his campaign.

Copies of the approved 1985 budget are on file at the MSMA office.

It was reported that as of December 1, 1984, MMPAC had a total of 1,566 regular members and 201 sustaining members, for a year-end total of 1,767. There was a slight decrease in active MSMA membership in 1984. Figures indicate that there are 1,252 Missouri physicians who are AMA (direct) members and not members of MSMA. A mailing to these physicians is scheduled.

Seven years ago, the Association developed a mechanism and guidelines that could be used to encourage and assist a member interested in pursuing a professional liability countersuit. Several inquiries have been made over the years, but no one has ever initiated filing a countersuit. It was noted that most physicians are tired of lawyers and courts after they have successfully defended themselves and are not willing to pursue a countersuit. However, there is now a physician who received a summary judgement in his favor, whose case appears to meet MSMA guidelines, and who is willing to countersue both the plaintiff and the plaintiff's attorney. MOMEDICO has agreed to share the costs of the case with MSMA.

Committee on the Impaired Physician

William Stryker, M.D., chairman of the Committee on the Impaired Physician, reported on the committee's recent meeting and recommendations.

The Committee discussed, at length, the position of Medical Director for the Committee on the Impaired Physician. In November 1983, the Committee recommended that the Medical Director should be funded as a full-time position. Even though the Committee recognized budget constraints, the Committee reaffirmed its previous recommendation that the Medical Director position should be full time. Dr. Stryker indicated that medical associations that have impaired physician programs staffed by Medical Directors seemingly have a better relationship with their state board of healing arts and have experienced significantly greater case findings than those states that do not have a Medical Director.

During the meeting, the Committee recognized that the Missouri State Medical Association finds itself in a difficult dilemma in that it has been reluctant to allocate funds necessary for a Medical Director as a result of the low case findings experienced thus far. However, the Committee feels higher case findings cannot be obtained without a Medical Director who has the time, commitment and necessary background.

The Committee recommended a budget of $150,000 for the program. This budget, the committee stated, would attract physicians with the necessary background to conduct a vigorous and aggressive program. The $150,000 would include both salary and expenses for a Medical Director.

Dr. Stryker went on to report that the Committee believes that Missouri would be an appropriate site for the 1986 AMA Conference on the Impaired Physician. This Committee recommended that the MSMA explore this possibility.

The Committee expressed its support in the development of Caduceus Clubs in Missouri. These clubs provide an excellent supportive mechanism to Missouri's recovering physician.

Lengthy discussion by the Council followed on the Committee's budget recommendation of $150,000 for the Impaired Physician Program. During discussion, Dr. Stryker pointed out that several other groups, i.e. osteopathic physicians, nurses, pharmacists, Hospital Association, etc. had expressed an interest in establishing a conjoint program with the sharing of a Medical Director.

On motion, duly seconded, the Council authorized the Committee to investigate the various factors involved in establishing an ongoing Impaired Physician Program with a fiscal note of $150,000-$200,000. The MSMA, however, is not committed to expending these funds at this time. Among the points that should be investigated are the feasibility of hiring a full-time medical director, other sources of funding, and the possibility of establishing a conjoint program with other interested groups. The Committee was instructed to bring a report back to the Council at the next Council meeting.

Committee on Planning

C. C. Swarens, MSMA assistant executive secretary, reported that the Committee on Planning had recently met to discuss several matters including the formation of a separate Resident Physician Section. The Committee agreed that Resolution 27, adopted by the 1984 House of Delegates, would best be implemented by formation of a Residents Component Medical Society and agreed to forward proposed language to the MSMA Council.

The Committee also discussed possible reinstitution of the annual MSMA Leadership Conference. Such Conferences were held from 1968 through 1974 and were designed to inform state and local society officers and members on such subjects as legislation, membership, public relations, etc. The Committee decided it would be advantageous to the MSMA and its members to recommend that the MSMA Council schedule a Leadership Conference in 1985, perhaps in conjunction with a meeting of MSMA "Key Contacts."

The Committee also recommended that the MSMA Council initiate a MSMA "Washington Visitation." Such "visitations" were held prior to the mid-1970s. Attending such meetings were: One physician from each congressional district who could visit personally with his/her representative; one physician who could visit personally with our U. S. Senators; the MSMA President and MSMA senior staff. Considering flight charges, one-night hotel stay and a reception/luncheon for the Congressional Delegation, total cost of the "visitation" was estimated between $10,000-$14,000 for the approximately 14 persons attending. Only the expenses for the "official party" would be paid by the MSMA.

The Committee briefly discussed items considered by the Committee at earlier meetings. These include the Deferred Compensation Plan, the suggestion that MSMA become administrator of MOMEDICO and the MSMA Impaired Physician Program. Although no action was taken on these items, it was suggested that the Deferred Compensation Plan and the Impaired Physicians Program be given wider publicity among MSMA members.

The Council approved the programs outlined above.

Commission on Continuing Education and Health Manpower

Dr. Alan Braun, councilor advisor to the Commission, gave the Commission's report to the Council and asked that the Council approve, for CME accreditation, the following: West Plains Memorial Hospital, 1 year; Boone County Medical Society, 3 years; Missouri State Orthopaedic Association, Inc., 1 year; St. Louis Society for Medical and Scientific Education, 4 years; St. Anthony's Medical Center, 2 years; and Buchanan County Medical Society, 3 years.

On motion, duly seconded, the Council approved these CME accreditations.

Commission on Public Affairs

Dr. Dorothy Reister, a member of the Commission, reported on the Commission's actions during its recent meeting.

The Commission decided to hold its communications seminar for MSMA members in May 1985.

A proposal by Capital Research Services was studied. The company was interested in providing survey services to the Association at a cost of $240 per question. The Commission did not feel there was a need for the service at this time, but indicated they may consider the proposal again at a later date.

The Commission requested that copies of the Pennsylvania "Marketing Guide for Physicians" be made available to MSMA members at cost. The members also suggested that it be made available to residents. For those residents who will be staying in Missouri, it will be sent to them at no cost. Copies will also be available at the MSMA Annual Convention in April.

Wayne County Medical Society (Detroit) published an ad in its medical journal requesting suggestions from their general membership about the Society's public relations program. A similar ad is to be placed in a future issue of Missouri Medicine.

Report on MOMEDICO

Dr. Richard Bradley gave the Council an update on the activities of MOMEDICO. He reported that MOMEDICO is trying to keep premium rates competitive with other companies, and all claims are reviewed every 90 days, even if they are inactive. There was an approximate profit of $20,000 in 1984, he said.

The rate of claims filed is accelerating, and MOMEDICO has been successful in 19 of the 20 cases that have gone to trial.

MOMEDICO has been informed by its re-insurer that its surplus must be increased in order to retain the currently excellent re-insurance rates. MOMEDICO staff is currently investigating several different methods of accomplishing this. Dr. Bradley asked the Council for Association assistance in obtaining some legislative relief from a recent Supreme Court ruling on the accessibility of peer review committee minutes.

Chairman Ekern accepted the report.

Committee on Legislative Affairs

C. C. Swarens reported on the bills of interest to medicine that had been pre-filed for the upcoming General Assembly. These included four malpractice bills dealing with collateral sources, structured awards, comparative negligence, and cap on awards and one on confidentiality of peer review records. The "PIP" program (see related article) should increase the involvement of physicians in the legislative process.

Royal Cooper, MSMA executive secretary, asked for Council approval of two resolutions — one for Ms. Jean Duensing who recently retired as Managing Editor of Missouri Medicine, and the other for Mr. Edward Borman, Executive Secretary of the Missouri Association of Osteopathic Physicians and Surgeons, who will soon be retiring. On motion, duly seconded, these resolutions were adopted.

MSMA Staff Changes

Jean Duensing, who served the association as managing editor of Missouri Medicine for 18 years, retired in December. Laurie Cofer, formerly MSMA Director of Communications is the new managing editor. Kay Dinolfo is the new Director of Communications. ■

Recommendations offered to curb high medical costs

The Governor's Task Force on Health Care Costs was created to study the growing health care cost crisis in Missouri and to offer recommendations to improve the situation.

"The cost of health care in Missouri is among the highest in the nation. Expenses per capita for inpatient hospital services are the third highest in the country. These high costs result in higher out-of-pocket medical expenses than is necessary, higher insurance premiums, and higher taxes to support such programs as Medicaid and to pay for health insurance benefits for employees of state and local government," the report summarizes.

The recommendations offered in the Task Force's final report fall into three areas: health care financing, control of health system capacity, and data and utilization of services. The major recommendations under each are summarized below.

Health Care Financing

A. Health insurance plans should incorporate appropriate patient cost sharing and other provisions to limit unnecessary care. At the same time, they should incorporate adequate protections against financially catastrophic illness.
B. Both the state and the private sector should encourage the continued development of competing alternative delivery systems.
C. All parties need to be concerned that cost containment efforts do not reduce access for indigent populations. Federal, state, and local governments have the primary responsibility in this regard, with philanthropy playing a supportive role.
D. Rising malpractice insurance premiums have contributed to rising health care costs, and state legislation is needed to address this problem.

Control of the Capacity of the Health Care System

A. Information should be readily available on overall community hospital use and individual hospital prices and volume in order to foster rational decision-making regarding the need for inpatient facilities.
B. Hospital trustees should become more involved in formulating responses to declining hospital use.
C. The existing legislative moratorium on hospital and nursing home construction should be continued, and the process for granting certificates of need for new facilities and services should be strengthened.

Data and Utilization

A. Legislation should be enacted to require that hospitals and physicians adopt a uniform bill.
B. Hospitals, physicians, and other independent practitioners should be encouraged to disclose prices for commonly provided services.
C. Private purchasers and third party payers should ensure that they have effective utilization review efforts in place.

List of Recommendations

1. Health insurance plans should avoid first-dollar coverage but should also incorporate adequate protections against financially catastrophic illness. They should also incorporate other provisions to limit unnecessary medical care, such as promoting second opinions for surgery, requiring prior certification for nonemergency hospital

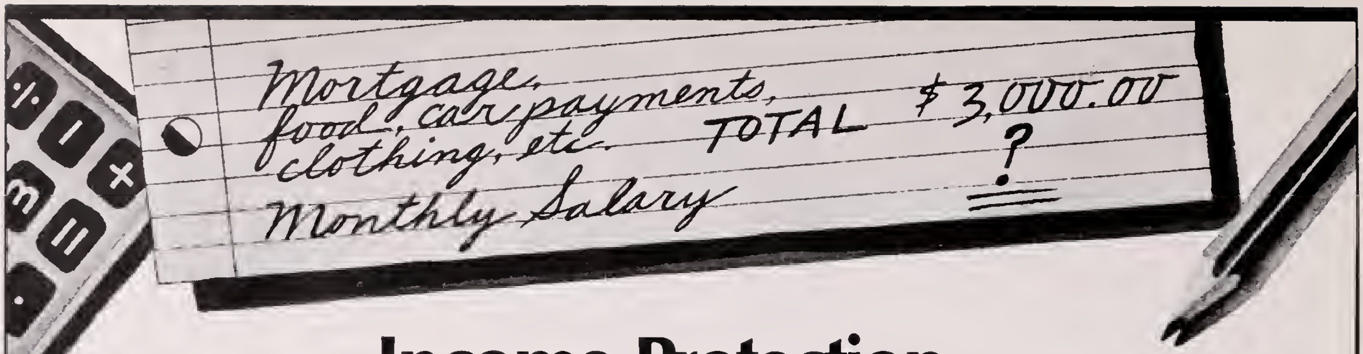
admissions, promoting alternatives to inpatient treatment, and retaining cost sharing for persons covered under more than one policy.

2. Both the state and the private sector should encourage the continued development of competing alternative delivery systems, such as HMOs and selective contracting arrangements.
3. All parties need to be concerned that cost containment efforts do not reduce access for indigent populations. However, the responsibility of financing care to such populations rests primarily with federal, state, and local governments, with philanthropy playing a supportive role.
4. Missouri law affecting medical malpractice should be amended to:
    - ☐ Grant the defendant or the plaintiff the right to require structured payment of awards, that is, payment in installments over several years rather than as single lump-sums.
    - ☐ Place limits on the portion of awards attributable to noneconomic loss.
    - ☐ Prevent double recoveries by requiring the reduction of malpractice awards by amounts plaintiffs receive from other sources, such as health and disability insurance.
    - ☐ Permit the courts to apportion recovery among multiple defendants, based upon comparative fault.
    - ☐ By means of a graduated scale, limit the size of contingent attorneys' fees as a proportion of plaintiffs' awards.
    - ☐ Authorize summary judgments in cases where there are no factual disagreements.

    In addition, the state should investigate the possibility of instituting a voluntary binding arbitration system.
5. In the current environment of rapidly rising health care costs, the state should, in general, avoid mandating new benefit expansions on the private sector.
6. The state should ensure that information on overall community hospital use and individual hospital volume is analyzed and disseminated.
7. Hospital trustees should become more involved in formulating appropriate responses to declining hospital use and in identifying opportunities for merger or consolidation and changes in their respective hospital's role in the community. To assist trustees in playing this role:
    - ☐ The state and private groups should conduct information programs for trustees on the changing hospital market.
    - ☐ Trustees should establish inter-hospital trustee organizations.
8. The moratorium on hospital and nursing home development should both be continued and expanded to include specific services.
9. The legislature should amend the certificate of need statute to expand participation by purchasers and consumers and to tighten the standards for project approval.
10. The following two topics should be the subject of further study.
    - ☐ Whether a mechanism should be established to assist hospitals in financing closures and mergers.
    - ☐ Whether hospital access to tax exempt revenue bonds should be restricted.
11. Legislation should be enacted to require that hospitals and physicians adopt a uniform bill. Payers should be required to accept the bill for payment purposes, except if they need additional detail.
12. Hospitals should calculate and publicly disclose average per case charges for up to twenty-five diagnostic categories. Similarly, physicians should be encouraged to develop and make available upon request price lists for their most common procedures. Those who purchase care should insist on such information being readily available.
13. The State should publish, or assure that all purchasers have access to, both (1) data that compares individual providers' prices and utilization characteristics and (2) data on utilization patterns by geographic areas, such as counties or regions, that represent medical service areas.
14. Private purchasers and third party payers should ensure that they have utilization review efforts in place.
15. Legislation should be enacted to protect the confidentiality of written peer review records. ■

New program to give MDs new public image

The AMA's effort to enhance the public image of physicians will be strengthened by a major education campaign. The House of Delegates called for the Board of Trustees to implement a campaign to increase the public's awareness that physicians are advocates of their patients. The program also will be designed to increase the public's understanding of changes that are occurring in health care delivery and the impact that these changes will have on quality and access. As it has done in the past, the AMA will help state and county societies develop public awareness programs at the local level. ■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PRESIDENT'S PAGE

by James M. Stokes, M.D.

The interim meeting was preview of revolutionary medical changes in 1985

Interim meeting addresses issues

An "interim meeting" frequently evokes a ho-hum response, with the feeling that old business will be rehashed and significant issues will be deferred to the Annual Session. As an observer of the AMA interim meeting in December, the reverse is true. This interim meeting provided vital functions for each state medical association and physician-member. It educated newcomers on issues of both state and national significance and it provided excellent indepth summaries of the major medical and scientific advances. These are not superficial summaries, but are indepth reports by experts.

The 13 reports of the AMA Councils covered medical specialty disciplines, legislative affairs, and changes in health care delivery systems. These reports are valuable in formulating guidelines for such problems as rationing or sharing new technology. They also provide guidelines for treating chronic diseases. In addition, they evaluate the vital care of the chronically ill patients whose needs are not met by the present system.

Medical care restrictions were examined and solutions were discussed by all the state medical society sections and the AMA reports. The federation coverage of these issues provides the vital exchange of prospectives which will be issues in the coming year. A short sample of subjects considered by the AMA Councils and the House of Delegates follows, and is a very random sampling of the issues debated:

1. Mechanisms to correct health insurance discrimination against children
2. Medicare decertification of rural hospitals
3. Open hospital staffs
4. HCFA implementation of PRO
5. Adjustment of reimbursement for specific diagnosis related groups
6. Legislation of medical care by nonphysicians
7. Banning of boxing
8. Resident specialty society representation
9. Medicare payment for medical education
10. Physicians rights and mandatory assignment under Medicare and DRG regulations.

This small list is only an illustration of the broad spectrum covered by the 13 major council reports of the AMA and the more than 100 resolutions considered by the House of Delegates before final action. These resolutions have major impact upon patient care, medical legislation and medical education in the United States. Members and non-members alike benefit from these activities. In short, the interim meeting was a preview of revolutionary medical changes in the year 1985. ■

Correction: In the November 1984 President's Message it was incorrectly stated that Dr. Evarts Graham was a Nobel Prize winner. Our apologies.

Special Article

Preadmission Certification Program

by Mohammad N. Akhter, M.D.

Dr. Akhter is executive vice president and medical director of the Missouri Patient Care Review Foundation.

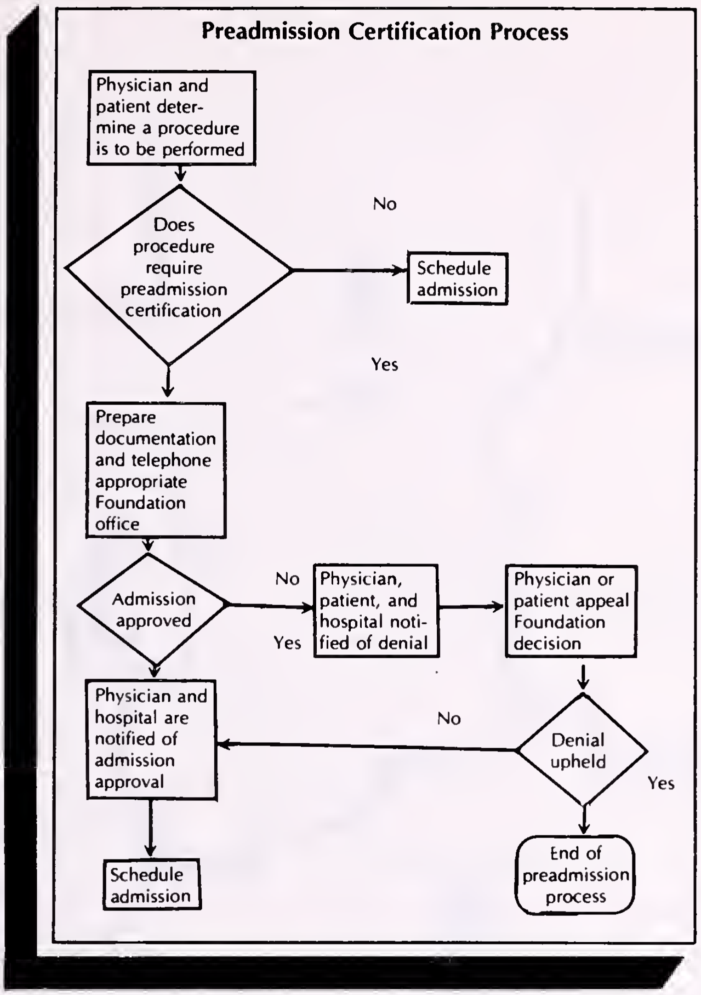
The Missouri Patient Care Review Foundation has contracted with the Health Care Financing Administration (HCFA) to perform review of hospitalization of Medicare recipients. The Foundation has been directed to perform preadmission certification on certain of these hospitalizations. This is, before a patient can be admitted to a hospital for certain procedures, after October 1, 1984, certification must be obtained from the Foundation. These procedures are listed in Table 1. The Health Care Financing Administration has determined that these procedures can be safely performed on certain patients in an outpatient setting. Under the contract, known as the PRO contract, the Missouri Patient Care Review Foundation is required to determine whether hospitalization for any of these procedures is necessary, prior to the admission of a Medicare patient to the hospital.

Almost all states now have a PRO contract with the Health Care Financing Administration and are required to do preadmission certification on certain procedures. These procedures were selected among a list provided by the Health Care Financing Administration to the state organizations as a part of the Request for Proposal (RFP).

We have reviewed the preadmission certification programs in other states. The mechanism for most of these programs is the same, but specifics vary greatly. Generally, the requests for admission are received and are reviewed by a nurse or a medical records person. Based on the established criteria, a decision is made either to approve the admission or to refer that particular case to the physician advisor, who in turn makes a decision whether the admission is necessary. In some states, the decision is made by non-physicians (RNs, LPNs, or medical records technicians). However, in the state of Missouri, because of the physician-sponsored organization, all denial decisions are made by physicians.

Following is the procedure for preadmission certification:

1. Initial requests for approval are customarily made by phone to the PRO area office by the physician or the office staff. When requests are received, they are recorded on the PRO area office log. A review coordinator is available at each PRO review area office between the hours of 9:00 a.m. and 4:00 p.m. each working day.
2. If the patient meets the screening criteria, the admission is certified. If not, the case is referred to a physician consultant.
3. The physician consultant may approve the admission based on the information provided by the coordinator, or he may contact the attending physician for further information if deemed necessary. Every effort is made by a PRO physician to contact the attending physician prior to making a denial decision.
4. In all cases, the decision is communicated by telephone within 24 hours of receipt of the requests to both the physician and the hospital.
5. In the case of a positive decision, written confirmation is provided to the hospital, with a copy sent to the attending physician. When the decision is a denial, written confirma-


Physician and patient determine a procedure is to be performed
Does procedure require preadmission certification
No
Schedule admission
Yes
Prepare documentation and telephone appropriate Foundation office
Admission approved
No
Yes
Physician, patient, and hospital notified of denial
Physician or patient appeal Foundation decision
Physician and hospital are notified of admission approval
No
Denial upheld
Yes
Schedule admission
End of preadmission process

Preadmission Certification Process

Table 1

The Fifteen Procedures Requiring Preadmission Certification

Generally speaking, the following procedures can be safely performed on an outpatient basis:

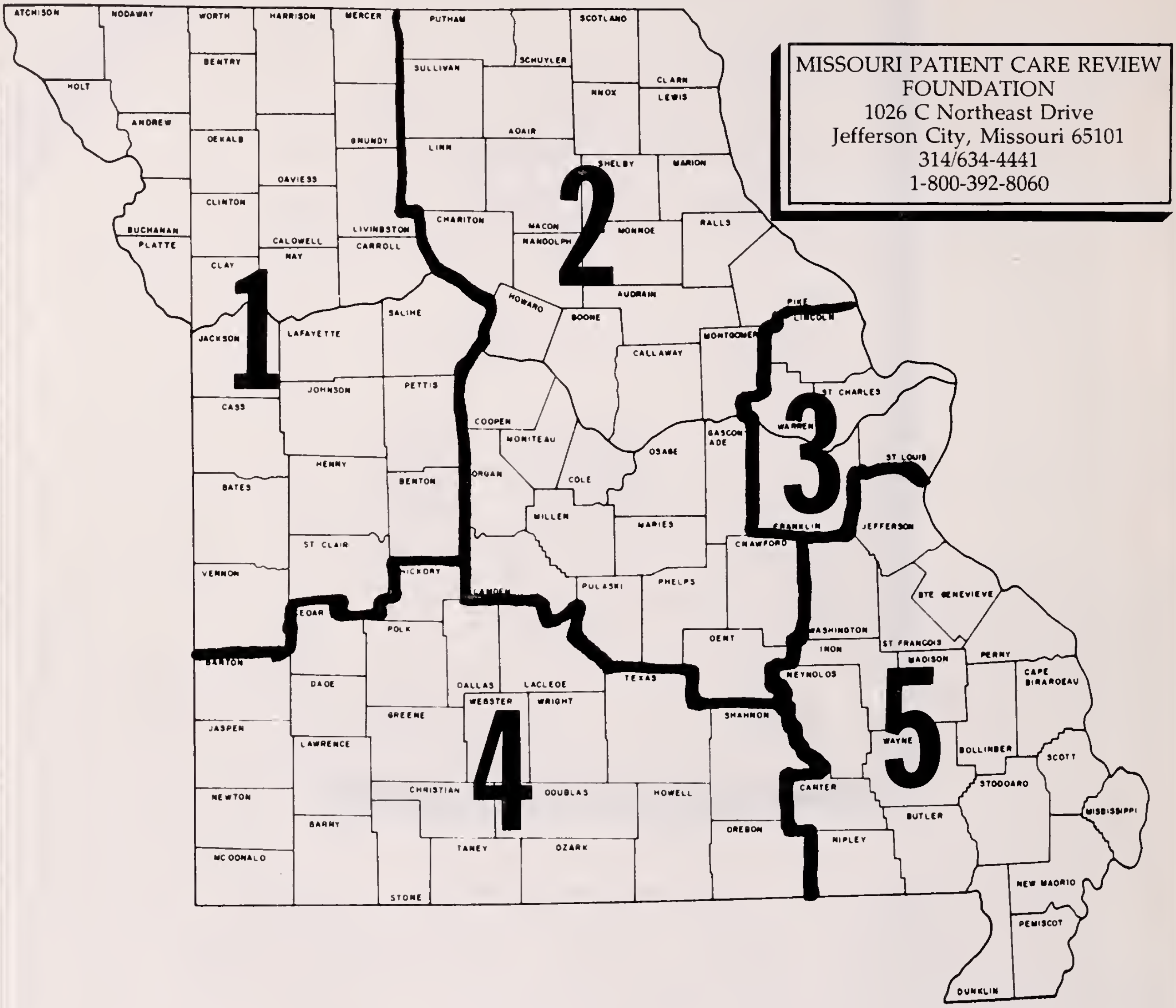
1.	04.43	Release of carpal tunnel syndrome
2.	24.5	Alveoloplasty
3.	40.11	Biopsy of lymphatic structure
4.	53.00	Unilateral repair of inquinal hernia
5.	67.12	Other cervical biopsy
6.	67.39	Other excision/destruction of lesion or tissue of the cervix
7.	69.09	Other dilation and curretage
8.	71.3	Other local excision/destruction of lesion of vulva and perineum
9.	81.18	Other fusion of toe
10.	82.21	Excision of lesion of tendon sheath and hand
11.	83.13	Other tenotomy
12.	85.12	Other biopsy of breast
13.	86.23	Removal of nail, nailbed, or nailfold
14.	86.3	Other local excision/destruction of lesions of skin or subcutaneous tissue
15.	86.60	Free Skin graft, NOS

Table 2

Total Preadmission Certification Reviews
October, November, 1984
(Per HCFA-516 Report)

	Total # Reviews	*Denials*	
Area I			
(NWMO)	120	2	
	74	1	
	194	3	2%
Area II	16	2	
	14	1	
	30	3	10%
Area III			
(CEMPROC)	151	4	3%
Area IV	33	0	
	53	0	
	86	0	0%
Area V	33	0	0%
Total	494	10	2%

Table 3



MISSOURI PATIENT CARE REVIEW
FOUNDATION
1026 C Northeast Drive
Jefferson City, Missouri 65101
314/634-4441
1-800-392-8060

AREA I

Northwest Missouri Health Care
Review Organization
301 E. Armour Blvd., Suite 202
Kansas City, MO 64111
816/531-3908
816/756-3025 (Preadmission Cert.)

AREA II

Missouri Patient Care Review
Foundation
Regional Office
1026 C Northeast Drive
Jefferson City, MO 65101
314/634-4323
1-800-392-8060 (Preadmission Cert.)

AREA III

CEMPROC
4625 Lindell Blvd., Suite 316
St. Louis, MO 63108
314/367-5900
314/367-8401 (Preadmission Cert.)

AREA IV

Missouri Patient Care Review
Foundation
Regional Office
208 Professional Building
Springfield, MO 65806
417/866-1994
1-800-492-4215 (Preadmission Cert.)

AREA V

Missouri Patient Care Review
Foundation
Regional Office
114 Silver Springs Road
Cape Girardeau, MO 63701
314/334-3016
1-800-392-9809 (Preadmission Cert.)

tion is mailed to the hospital, with copies sent to the attending physician and the patient.

6. The attending physician may ask for a reconsideration of a denial decision. In all such cases, the Missouri Patient Care Review Foundation provides review by another physician advisor.
7. All cases which were denied but where an admission took place are subject to a full chart review for admission, quality, and DRG validation. If justification can still not be established, the denial process is implemented and the waiver of liability is rebutted.
8. All procedures listed under Table 1 are reviewed on a retrospective basis.

Discussion

Getting a patient admitted to the hospital isn't as easy as it used to be, and it is going to become even harder. In addition to the PROs requiring preadmission certification for Medicare patients, programs that require prior approval of hospital admissions (usually organizations footing the bill) are springing up all over the country. At least 20 Blue Cross and Blue Shield plans have begun a preadmission review system, and several others are developing them. The commercial insurers are showing interest too, and a growing number of employers are contracting directly with the PROs to conduct a preadmission certification program for them. Health Maintenance Organizations (HMOs) are writing requirements for preadmission review into their contracts, with tough penalties for doctors who do not cooperate. Many of the preferred provider organizations are expected to do the same.

In some states, a doctor must obtain approval before admitting Medicaid patients for certain surgical or diagnostic procedures. It is our understanding that the Medicaid program in the State of Missouri will also be moving to implement a stringent preadmission certification program. For physicians, it all adds up to another level of interference we haven't had to deal with before.

The pressure to hold down health care costs in general, and the move towards outpatient treatment in particular, are primarily responsible for the growth of preadmission review. Since October 1, 1984, the Missouri Patient Care Review Foundation has conducted review on a preadmission basis for the 15 conditions listed on Table 1. There were 494 cases reviewed by all five regional offices during the months of October and November of 1984 (Table 2). Overall, 2% of such admissions were denied. None of those denials were made by a non-physician. In those cases where reconsideration was asked for, it was provided promptly by the area regional office, or our regional subcontractors.

The preadmission program is a relatively new program in Missouri. The Missouri Patient Care Review Foundation and its Board are trying their utmost to maintain it as a professional program. We are as concerned about patient care as we are about the cost of health care. It is important that all physicians participate in the preadmission program. All records are subject to review on a retrospective basis, and all those cases where an admission took place without adequate reason to justify it will be denied. This will create an unnecessary financial burden on the hospitals and may lead to friction between the physician and the hospital. Working together, we can, in our state, implement this program without any adverse effect on the quality of care for our patients. ■

The Missouri Patient Care Review Foundation staff stand ready to answer any questions that physicians may have. A list of toll-free numbers for our regional offices is provided in Table 3. Anyone wishing additional information should call or write to: Missouri Patient Care Review Foundation, 1026 C Northeast Drive, Jefferson City, Missouri 65101.

> "For physicians, it all adds up to another level of interference we haven't had to deal with before."

Auxiliary Message

by Mrs. Richard (Polly) Bowles
President

We are interested in legislation, especially that which affects the delivery of health care.

Learning more, Helping more

The MSMA Auxiliary will sponsor "Day at the Legislature" in Jefferson City, March 5. Auxilians and guests are to gather for fellowship and orientation in the basement of the capitol at 9:30 a.m.

A tour of the capitol will be available, plus private time in the offices of our state representatives and senators. Visits to the working sessions of the Senate and House of Representatives are planned to help us become more familiar with the process of state government. Auxiliary members and "Key Contacts" are inviting the legislators from our home districts to join us for lunch at the Governor Hotel. This social time provides opportunity for personal contact as well as exchange of thoughts, concerns, and opinions with the legislators.

The governor's mansion will be available for touring in the afternoon.

All activities will be concluded by 3 p.m. so that those attending this very special day can return home before evening.

Our state legislative chairman and her committee, composed of the county legislation chairmen, are making all arrangements for this event. They hope to make this a time to discover how we may better work through state government and, at the same time, let our legislators know that we are interested in legislation, especially that which affects the delivery of health care in this state.

Doctor, please encourage your spouse to join us. You and your entire family are welcome to be with the Auxiliary for Legislature Day. Let's increase our awareness and strengthen our influence in Jefferson City. ■

New studies uncover the potassium effects of beta-2 blockade

Clinical pharmacology data from *The New England Journal of Medicine:*

> *"...when normal young men are given infusions of epinephrine at levels such as those that circulate in patients with myocardial infarction, their serum potassium concentrations fall by about 0.8 [mmol] per liter. Hypokalemia is prevented by selective beta-2 blockade."*[1]

Evidence that all beta blockers are not created equal.

Right from the start in hypertension...

Once-daily INDERAL LA (propranolol HCl) for smooth blood pressure control without the potassium problems of diuretics

Once-daily INDERAL LA (propranolol HCl) avoids the risk of diuretic-induced ECG abnormalities due to hypokalemia.[2,3] In addition, INDERAL LA preserves potassium balance without additive agents or supplements while providing simple, well-tolerated therapy with broad cardiovascular benefits.

Once-daily INDERAL LA for the cardiovascular benefits of the world's leading beta blocker

Simply start with 80 mg once daily. Dosage may be increased to 120 mg to 160 mg once daily as needed to achieve additional control.

Like conventional INDERAL tablets, INDERAL LA should not be used in the presence of congestive heart failure, sinus bradycardia, heart block greater than first degree, and bronchial asthma.

For beta-1/beta-2 blockade

Once-daily

INDERAL LA

(PROPRANOLOL HCl)

The appearance of these capsules is a registered trademark of Ayerst Laboratories.

Please see brief summary of prescribing information on the next page for further details.

Once-daily
For beta-1/beta-2 blockade INDERAL® LA
(PROPRANOLOL HCl) LONG ACTING CAPSULES

The appearance of these capsules
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BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR)*

INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**

DESCRIPTION. Inderal LA is formulated to provide a sustained release of propranolol hydrochloride Inderal LA is available as 80 mg, 120 mg, and 160 mg capsules

CLINICAL PHARMACOLOGY. INDERAL is a nonselective beta-adrenergic receptor blocking agent possessing no other autonomic nervous system activity It specifically competes with beta-adrenergic receptor stimulating agents for available receptor sites When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately

INDERAL LA Capsules (80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL tablets The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially

INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product INDERAL LA can provide effective beta blockade for a 24-hour period

The mechanism of the antihypertensive effect of INDERAL has not been established Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output, (2) inhibition of renin release by the kidneys, and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain Although total peripheral resistance may increase initially, it readjusts to or below the pretreatment level with chronic use Effects on plasma volume appear to be minor and somewhat variable INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients

In angina pectoris, propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate, systolic blood pressure, and the velocity and extent of myocardial contraction Propranolol may increase oxygen requirements by increasing left ventricular fiber length, end diastolic pressure and systolic ejection period The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity

In dosages greater than required for beta blockade, INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential. The significance of the membrane action in the treatment of arrhythmias is uncertain

The mechanism of the antimigraine effect of propranolol has not been established Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain

Beta receptor blockade can be useful in conditions in which, because of pathologic or functional changes, sympathetic activity is detrimental to the patient But there are also situations in which sympathetic stimulation is vital For example, in patients with severely damaged hearts, adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved In the presence of AV block, greater than first degree, beta blockade may prevent the necessary facilitating effect of sympathetic activity on conduction Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm

Propranolol is not significantly dialyzable

INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension; it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic INDERAL LA is not indicated in the management of hypertensive emergencies

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope INDERAL LA also improves exercise performance The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation Clinical improvement may be temporary

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL

WARNINGS. CARDIAC FAILURE Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

> IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)— PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors

MAJOR SURGERY The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, e g , dobutamine or isoproterenol However, such patients may be subject to protracted severe hypotension Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers

DIABETES AND HYPOGLYCEMIA Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes In these patients, it may be more difficult to adjust the dosage of insulin

THYROTOXICOSIS Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm Propranolol does not distort thyroid function tests

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker In one case this resulted after an initial dose of 5 mg propranolol

PRECAUTIONS. *General* Propranolol should be used with caution in patients with impaired hepatic or renal function INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies

Beta adrenoreceptor blockade can cause reduction of intraocular pressure Patients should be told that INDERAL may interfere with the glaucoma screening test Withdrawal may lead to a return of increased intraocular pressure

Clinical Laboratory Tests Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase

DRUG INTERACTIONS Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension

Carcinogenesis, Mutagenesis, Impairment of Fertility Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity There were no drug-related tumorigenic effects at any of the dosage levels Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug

Pregnancy Pregnancy Category C INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose

There are no adequate and well-controlled studies in pregnant women INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus

Nursing Mothers INDERAL is excreted in human milk Caution should be exercised when INDERAL is administered to a nursing woman

Pediatric Use Safety and effectiveness in children have not been established

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy

Cardiovascular bradycardia congestive heart failure, intensification of AV block, hypotension, paresthesia of hands, thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type

Central Nervous System lightheadedness; mental depression manifested by insomnia, lassitude, weakness, fatigue, reversible mental depression progressing to catatonia, visual disturbances, hallucinations, an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics

Gastrointestinal nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis

Allergic pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress

Respiratory bronchospasm

Hematologic agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura

Auto-Immune In extremely rare instances, systemic lupus erythematosus has been reported

Miscellaneous alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily If patients are switched from INDERAL tablets to INDERAL LA capsules, care should be taken to assure that the desired therapeutic effect is maintained INDERAL LA should not be considered a simple mg for mg substitute for INDERAL INDERAL LA has different kinetics and produces lower blood levels Retitration may be necessary especially to maintain effectiveness at the end of the 24-hour dosing interval

HYPERTENSION—*Dosage must be individualized* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic The dosage may be increased to 120 mg once daily or higher until adequate blood pressure control is achieved The usual maintenance dosage is 120 to 160 mg once daily In some instances a dosage of 640 mg may be required The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks

ANGINA PECTORIS—*Dosage must be individualized* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three to seven day intervals until optimum response is obtained Although individual patients may respond at any dosage level, the average optimum dosage appears to be 160 mg once daily In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS)

MIGRAINE—*Dosage must be individualized* The initial oral dose is 80 mg INDERAL LA once daily The usual effective dose range is 160-240 mg once daily The dosage may be increased gradually to achieve optimum migraine prophylaxis If a satisfactory response is not obtained within four to six weeks after reaching the maximum dose, INDERAL LA therapy should be discontinued It may be advisable to withdraw the drug gradually over a period of several weeks

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use

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Survey

Physicians' Perception of the Prospective Payment Plan Using DRGs

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The prospective payment system using Diagnosis Related Groups (DRGs) for Medicare reimbursement has received a great deal of attention from health professionals due to its inherent economic implications. As a result of this plan, hospitals are now put into a position in which the decisions regarding patient management must be based not only on quality outcomes but also on economic outcomes, since the payment per diagnosis is fixed. This will have a profound effect upon physician diagnosis and treatment patterns since the physician dictates the resources consumed during the patient's stay.

The hospital will have to monitor closely physician use of resources in order to be reimbursed sufficiently. When imposed upon the physician, these controls will create a different relationship than presently exists between the physician and hospital administration.

The DRG plan has provoked many arguments for and against. The prospective payment system has the potential to alter hospital delivery systems and physician utilization patterns.[1]

Ancillary services, such as the pharmacy had been exempt from cost limits. Now, total cost-per-patient stay is calculated for reimbursement. The use of laboratory test and other ancillary services may cause a hospital to exceed its cost limits and consequently result in unreimbursed expenses.[2] Bentley addressed the role to be played by the medical records personnel.[3] Ways have to be found to increase physicians' interest in completing medical records and the review of information they provide in a timely and accurate manner.

Can or will a physician use only a fixed amount of resources to produce a healed patient? Doremus implied that physicians are not trained to treat patients at prescribed cost levels.[4] A similar pessimistic view was expressed by Simborg who argued that the implications of tying reimbursement to vagaries, uncertainties, subleties, and errors of discharge diagnosis reporting are unprecedented.[5] Bauman echoed Simborg's concern.[6] The new system has the potential to alter medical terminology. Although initially intended to compare case-mix profiles for utilization review studies, financially related groupings have proliferated and tend to bear less and less relationship to the disease picture. As a result, the medical similarities have diminished, although the groups may be financially homogeneous. This may cause some tensions between administration and medical staff.[3] McMahon even ventured to say that changes in the health care environment brought about by the advent of prospective payment have permanently altered the hospital/physician relationship.[7]

Methodology

This study is based on a survey of primary care physicians in the St. Louis metropolitan area who have a high probability of treating Medicare patients (specialists in internal medicine, general practice, general surgery and orthopedic surgery).

A total of 1,076 physicians in these four categories served as the target population. A four-

Table 1

Means and Standard Deviations (SD)

Variables[1]	*Coding Algorithm*		*Mean*	*SD*
YEARPRCT (years practice)	Years		21.2	12.8
AGE	Years		55.1	13.5
SPECIALTY	Family Practice	= 1	2.6	1.3
	Internal Medicine	= 2		
	General Practice	= 3		
	General Surgery	= 4		
	Orthopedic Surgery	= 5		
CERTIFY (certification)	Yes = 1, No = 0		0.616	0.504
SEMINAR (attended on DRG)	Yes = 1, No = 0		0.671	0.471
PLACE OF SEMINAR	Hospital	= 1	1.205	1.093
	Medical Society	= 2		
	Other	= 3		
FACULTY (affiliation)[2]	Yes = 1, No = 0		0.491	0.502
RESEARCH (participant)	Yes = 1, No = 0		0.204	0.405
SOCIETY (officer)	Yes = 1, No = 0		0.556	0.493
MDSTAFF (committee)	Yes = 1, No = 0		0.736	0.441
SETTING (of practice)	Primary	= 1	1.375	0.807
	Secondary	= 2		
	Tertiary	= 3		
ORG (organize)	Group = 1, Solo = 0		0.556	0.517
COUNTRY (training)	U.S. = 1, Foreign = 0		0.792	0.403
PATIENT	Weekly		70.3	44.3
HOSPITAL (admitted)	Weekly		11.2	16.1
MEDICARE (admitted)	Weekly		4.7	8.1
INTEREST (in survey)	Yes = 1, No = 0		0.815	0.388

1. In our returns, there were only seven female physicians. Accordingly, this variable was deleted from the study.
2. The characteristics of the physicians in this study fell well within those of the population. Furthermore, the characteristics shown in this study correspond to those of a similar study.[11]

page questionnaire was designed and reviewed by one medical school physician and two research methodologists. The questionnaire was pilot-tested. Using a sampling error of ±0.05 and 90% confidence level, the optimum sample size for this study was determined to be 215 physicians. Based upon an assumption of 60% return rate, the questionnaire was mailed to 359 physicians. Two weeks after the initial mailing, another questionnaire was sent to all non-respondents. Six weeks after the initial mailing, 218 questionnaires (60.7%) had been returned with 215 usable replies (59.5%).

Two pertinent issues were explored in this study: Will the prospective payment system change physician attitudes toward patient management? And, who is the most appropriate person (or position) in the hospital to inform physicians that they are using more resources than allocated by the plan? Based on these issues, three sets of variables were extracted from the survey.

A. *Physician Characteristics Variables:* Following Penchensky and Fox,[8] and Shortell and Daniel,[9] these variables included: years of practice, age, board certification, attendance at seminars, setting in which seminars took place, affiliation with local medical schools, participation in scientific research, officer of local or national society, committee member within the hospital, staffing privilege at a primary, secondary or tertiary setting, and solo versus group practice. The variables were used to evaluate the characteristics of physicians in the study.

Finally, the number of patients treated, the number of patients in the hospital, the number of Medicare patients in the hospital, and the political system under which the physicians' medical training took place were examined.

B. *Physician Behavioral Variables:* Health care cost, attitude, and quality of care were the three basic issues examined. The following questions were submitted to explore these issues: Would health care cost be reduced as a result of this plan? Would there be a change in: quality of care, practice behavior toward patient management, attitude toward hospital administration, or attitude toward other physicians? Would physician reputations be judged by cost performance rather than quality of care, and would staffing privileges be dependent upon cost/benefit performance rather than quality of care? Would consumers benefit from the plan? Would the plan stimulate more pre-admission testing? Would Blue Cross and commercial insurance companies join the new plan? Should physician reimbursement also be based upon DRGs? And, was the plan the most effective way to solve the increasing cost of health care?

Table 2

Results of Questionnaires

Opinion	*Agree*	*Do Not Know*	*Dis-Agree*	*Total*
DRG will reduce overall health care cost	70 (32.4%)	68 (31.5%)	78 (36.1%)	216 (100%)
There will be more pre-admission as a result of this plan[a]	171 (79.2%)	26 (12.0%)	19 (8.8%)	216 (100%)
Consumers will benefit from this plan[a]	25 (11.6%)	50 (23.1%)	141 (65.3%)	216 (100%)
This plan is the best way to solve the current cost of health care problems[a]	13 (6.0%	58 (26.9%)	145 (67.1%)	216 (100%)
Physicians should also be reimbursed under this plan[a]	31 (14.3%)	39 (18.1%)	146 (67.6%)	216 (100%)
My practice behavior will be changed as a result of this plan[a]	121 (56.0%)	44 (20.4%)	51 (23.6%)	216 (100%)
My attitude toward hospital administration will be changed as a result of this plan[b]	84 (38.9%)	78 (36.1%)	54 (25.0%)	216 (100%)
My attitude toward other physicians will change as a result of this plan[a]	34 (15.7%)	88 (40.7%)	94 (43.5%)	216 (100%)
Physician's reputation will be judged by cost of care rather than outcome of care[a]	116 (53.7%)	48 (22.2%)	52 (24.1%)	216 (100%)
Staffing privilege will depend on cost/benefit performance rather than quality care performance[a]	120 (55.6%)	55 (25.5%)	41 (19.0%)	216 (100%)
Commercial and Blue Cross Insurance Companies will join this plan[a]	149 (69.0%)	64 (29.6%)	3 (1.4%)	216 (100%)

a: $P < 0.01$ b: $P < 0.05$

C. *Solution Variables:* The physicians were asked to state their preference of five offices in the hospital to notify them if their use of resources exceeded the limit set by DRG standards: chief of staff or medical director, peer review committee, medical records personnel, executive officer, or financial officer. These positions are each closely related either to the consumption of resources or to the maintenance of accurate patient records.

In addition to the three sets of variables above, the physicians were solicited for their interest in receiving the results of the study as an indication of their concern regarding the prospective payment system.

Results and Discussion

Means and standard deviations are shown in Table 1. More than half of the respondents were board-certified, and two-thirds of them attended seminars on the prospective payment system, mainly sponsored by hospitals. Each physician treated about 70 patients per week. Of these patients, 11 were in the hospital, with about five of these being Medicare patients. However, the variations of these statistics were large, especially for Medicare patients, as evidenced by the high standard deviation.

Table 2 lists the survey results on pertinent information about the prospective payment plan. As expected, physicians appear to have clear opinions on many issues involved with the prospective payment plan. An exception to this is the cost issues, on which opinion is almost equally divided. It is, however, important to point out that one-third of physicians believe the cost of care will be reduced as a result of this plan.

It is interesting to note that the physicians have the strongest opinions on three issues: They do not believe that consumers will benefit from this plan. They do not think this is the best plan to solve the current health care cost problem; and they strongly object to being included in the DRG plan.

This survey indicates some changes in physician behavior toward patient management. Physicians are uncertain how they will react toward their colleagues and hospital administrators. Such uncertainty was expected since real interaction had not yet taken place at the time of the study.

Physicians definitely are concerned that their reputation and staffing privileges may depend upon their cost/benefit performance rather than the quality of care. Above all, they believe that Blue Cross and other commercial insurance companies eventually will join this plan. The opinions expressed by physicians on these issues are statistically significant at $P < 0.05$. Furthermore, the

Table 4

Reference of Office to Monitor DRG System

Office/Rank	*Most Acceptable* ← *1*	*2*	*3*	*4*	→ *Least Acceptable* *5*	*Total**	*Weighted Average*
Chief of Staff	57 (32.9%)	68 (39.3%)	25 (14.4%)	11 (6.4%)	12 (6.9%)	173 (100%)	44.4
Peer Review	101 (54.9%)	45 (24.5%)	8 (4.3%)	13 (7.1%)	17 (9.2%)	184 (100%)	50.1
Med. Record Personnel	17 (10.2%)	22 (13.2%)	60 (36.1%)	21 (12.6%)	46 (27.7%)	166 (100%)	29.4
Executive Officer	6 (3.6%)	15 (9.1%)	48 (29.1%)	62 (37.6%)	34 (20.6%)	165 (100%)	26.1
Financial Officer	13 (7.9%)	8 (4.9%)	10 (6.1%)	43 (26.2%)	90 (54.9%)	164 (100%)	20.2

* Some physicians did not respond.

majority of respondents (almost 74%) believe that the quality of care will suffer, as shown in Table 3. However, it is interesting to note that almost one-fourth of physicians believe the quality of care will remain unchanged.

Table 3

Quality of Care

Deteriorated	154 (73.7%)
Improved	3 (1.4%)
Unchanged	52 (24.9%)
Total 209	(100.0%)

$P < 0.01$

Physicians overwhelmingly selected the peer review committee as the most preferable choice in resolving any problems concerning this plan. Using the weighted average scale, the peer review committee received more than 50 points; chief of staff (medical director) scored 44 points. This finding supports the Friedsonian concept of physician autonomy in medical practice.[10] Interestingly enough, physicians selected medical record personnel as their third choice.

Summary and Conclusions

This study attempted to investigate physician attitudes towards the prospective payment plan by surveying a stratified random sample of physicians in the St. Louis metropolitan area. The successful implementation of this plan depends heavily upon the cooperative attitude of physicians since they determine the amount and kind of health care resources used in treating patients.

Physicians will change their behavior toward patient management by increasing the use of preadmission tests. They overwhelmingly believe that the quality of care will deteriorate and consumers will not benefit from this plan. As a result, there will be a great deal of disagreement between administration and medical staff over the allocation of health care resources. According to this study, physicians would like to have the peer review committee settle any disputes. It will be important, therefore, to establish the committee in such a way as to represent the entire decision-making body of the hospital.

In the current setting of mass uncertainty that now exists, accurate and timely information becomes a vital factor in communicating with physicians. A means must be implemented for the hospital and physician to monitor the resource consumption of the individual patient. A DRG concurrent review reporting system would be beneficial not only to the physician, but also to medical records and financial personnel. Fixed reimbursement and resource consumption can be compared with hospital costs, and the contribution margin can be monitored to allow physicians to be aware of their status and of their patients' status.

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Letters to the Editor

"The Medilot Moment"

Dear Dr. Burkey:

In all good stories there is a bright and happy part. In the story of Camelot, the rainfall, the winter season and the morning fog were all happily governed by legal limits.

On such a sea we are now afloat, and in the story of Medilot, historians will note, we also had a set of most happy laws. The coliform count in our drinking water must observe a legal limit. Vaccinations, operating room sepsis and DRG hospital bills were under edict as well. Even doctors' fees were frozen. Happiness was everywhere, it was said.

Medilot was the high country. But in far off lands and even in neighboring countries things were different. They enjoyed no total heart transplants at all. Neither did they have by-pass procedures, cholesterol level tests or even the lowly appendectomy. Instead, folks in these lands outside of Medilot often solved their illnesses by just going straight to heaven instead. Automatic happiness, they said.

In the end, after its brief shining moment, Camelot fell in its blaze of glory. So, also, did Medilot after reaching its dizzy heights of total body organ replacement. A shortage of money, they said, shook the very base of the stairway to the surgical skies, and a back-to-earth movement began. Funds intended for Medicare now went into Parks and Recreation instead. A clean air environment used up funds formerly marked for cancer detection and medical research was felled by foreign aid and computerized armaments. Soon automatic happiness came upon Medilot as it had in many other lands.

Did Camelot or Medilot have to fall? Historians may argue away their evenings knowing nothing lasts forever.

But, when the approaching ice age is over, perhaps a few medical seeds will flower once again to bring about yet another Shining Moment in the Story of Medicine.

James J. Lally, M.D.
Kansas City

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Guest Editorial

Pasquale Accardo, M.D.
St. Louis

The Myth of Homo Gastronomicus: Your Child Is Not What He Eats

It's a very odd thing
As odd as can be.
That whatever Miss T eats
Turns into Miss T.
Walter de la Mare

Children are in need of protection from a new form of child abuse — fad diets seized upon by parents desperate for a quick solution to seemingly insolvable learning and behavior problems. The child with a curable form of cancer, who is denied effective treatment and taken out of the country for a quack nostrum such as laetrile, is being abused. The child with a learning or behavior disorder can be victimized in a number of similar ways.

First, the child may not need dietary or any other kind of therapy at all because he or she doesn't have a problem in the first place. The parents or the teachers may be the ones in need of help. The majority of professionals in the developmental disabilities field do not see any validity (or even sense) in the claims of dietotherapy. So when a parent receives support for the use of such a remedy, it will often be from a professional for whom the diagnosis and treatment of such children are sideline rather than major concerns. If it is alleged that career specialists in developmental disabilities have a vested interest in not wanting such children to be made well, then the unpleasant countercharge must be made that spokespersons for these quick and easy media-hyped panaceas are netting increasingly larger incomes, while the prevalence of developmental disorders remains agonizingly the same.

Second, when parents believe all their efforts to comply with complex dietary prohibitions are having some positive effect, then they are less inclined to pursue or adhere to more acceptable therapy.

Third, even when dietotherapy is carried out in conjunction with traditional interventions, it necessarily must interfere with the parents' full participation in the more accepted therapies. Involvement in appropriate educational and counseling programs is often a full-time job.

Why is there such disappointment and frustration with traditional approaches that parents are driven to these bizarre fads? It is probably because special education has always tended to advertise itself as a "cure" for problems of learning and behavior. If these disorders were diseases, and if educators were physician healers, such a "cure" might be possible. However, since developmentally disabled children are not sick but different, and since this difference (in cognitive style, behavioral temperament, etc.) tends to persist and needs continued attention, education both sets itself up for failure in providing the promised cure and traps parents into a web of frustrated expectations. This is, of course, the educational analogue to the physician's "It's just a phase, he'll grow out of it." More often than not, it isn't and he doesn't.

Dietotherapy further plays on base fears by making parents feel guilty about "poisoning" their child's body and mind, and, hence, impairing their child's ability to attend, learn, grow, and succeed. The basis for these charges usually comes from the individual salesman/practitioner's personal clinical experience, usually with untold thousands of patients. Medicine stopped listening to this kind of argument long ago; observation is a source of good leads but poor conclusions. Uncontrolled observations are anecdotal and unreliable, regardless of the professional stature and good intentions of the proclaimer.

The small fraction of nutritional knowledge and advice that is scientifically sound tells us about the diagnosis and treatment of severe deficiencies and marked excesses. A considerable number of well-designed research studies have failed to document any effect on learning and behavior from mild dietary variations in such foodstuffs as carbohydrates and vitamins.[1]

The "gut feeling" that there may be something to dietotherapy in an individual case needs to be measured against what is scientifically verifiable. If the reference to child abuse at the beginning of this article seems a bit extreme, consider that children are being subjected to therapeutic regimens of unproven efficacy and of unknown harmful potential. What, for example, will be the effects of such dietotherapy on offspring several decades from now? This unlikely possibility should not seem too far-fetched to those who make exaggerated claims for the far-reaching influence of diet. Under similar conditions, the use of a new drug would not be allowed without a warning from the Surgeon General and a signed consent for experimentation on human subjects.

To consider whether allergy might provide a more rational basis for dietotherapy than the pseudoscience of nutrition would be like comparing unicorns with griffins. True food allergies certainly exist but are relatively uncommon. As for mild food allergies or idiosyncratic reactions to food based on each individual's unique biochemistry, the actual incidence is unknown. As for allergies causing disorders of learning and attention, most people with food or inhalant allergies don't have these problems.[2] In fact, asthmatics tend to be academic overachievers. Although the "allergic-tension fatigue" syndrome can significantly affect children's learning and attention, it is extremely rare as a primary case of such disorders.

While I have seen many children whose parents desperately wanted to treat their child's learning disability as an allergic phenomenon, I have yet to see a single case in which allergy was more than a secondary contributing cause. And even these cases are rare.

When a prominent dietotherapist draws from his clinical experience, the pop-hype dietary rule-of-thumb that "If you love something, it's probably bad for you,"[3] it is not sufficient to respond that he is dead wrong. More than wrong, it has the truth backwards. It is bad metaphysics, poor common sense, and a dangerous guidepost. The evolutionary biologist may get nervous of anything smacking of teleology, but the pragmatic physician should recognize homeostasis in the wisdom of the body.

Temperance and moderation in eating, an approximation to a balanced diet, and the avoidance of junk foods have been recommended hygiene since the time of Hippocrates. But even Plato complained that the Hippocratic school's detailed regimens had converted life into a tedious death.[4] A paranoid overconcern about the mythical properties attributed to carbohydrates and vitamins can only turn life and health into regimen and disease, and three meals a day into a medication dosage schedule. We trust physicians with our lives because we have to, but our eating habits are much too important to be dictated by pseudospecialists.

The bottom line is almost uncomfortably simple. Learning problems are, with rare exceptions, brain problems. While other organ systems certainly influence it, the brain can isolate itself by buffering and screening out both inappropriate sensory input and interfering chemical disturbances. Those who

> "
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> "

> "Children are being subjected to therapeutic regimens of unproven efficacy and of unknown harmful potential."

speculate on the possibility of minor metabolic disturbances upsetting the brain's equilibrium would seem to be completely out of touch with the more grandiose and realistic conceptions of modern cognitive psychology. The human mind much more actively creates the world it interacts with than the reverse.[5] Mild or transient fluctuations in blood sugar or vitamin levels can influence mood and attention, but only mildly and transiently, and quite probably less so than altitude, atmospheric pressure, temperature, humidity, and countless other environmental variables.

The most appropriate treatment for learning and behavior problems in children is through modification of the learning environment. While special educational services are frequently claimed to be the whole answer, this is rarely true. Children with learning problems also have trouble learning appropriate social behavior, and the family often needs professional help in this area. Medical and biochemical interventions are almost always secondary and supportive, but never curative.

Again, there is no currently proven effective biochemical treatment (drug or diet) for learning and behavior problems in children (and adults). Psychostimulants such as dexedrine, methylphenidate (Ritalin), and pemoline (Cylert) are only adjunctive therapy and need to be carefully monitored by the physician and the school. There are no "cures." Learning disabled children grow up to be learning disabled adults with more or less of a handicap, depending on how successfully they and their families adjust to the problem. They should not waste time, energy, money, and other resources seeking a magic (vitamin) pill.

In the 16th and 17th centuries, apothecaries and grocers fought over the right to sell gingerbread and bananas.[6] The pharmacists claimed a monopoly on the two because they were classified as drugs. The grocers finally won out, and so modern science recognized the distinction between a food and a drug. Dietotherapists, however, would like to turn back the clock and make iced gingerbread available to children only by a doctor's prescription.

In the name of Francois Rabelais, Robert Farrar Capon[7, 8] and all other praisers and partakers in the sacramental banquet, this poisoning of the well-spring of good fellowship, this medicalization of the family meal should not be tolerated. In an age when Lenten fasts are not too strictly observed, the opposite vice to gluttony may well be dietotherapy — immoderate and irrational restrictions on eating based on a degrading and simplistic reduction of man to homo gastronomicus. Do we want our children to grow up in a world where food is a tasteless medication to the disease called life?[9] Common sense will tell you that a banana is, after all, only a banana.

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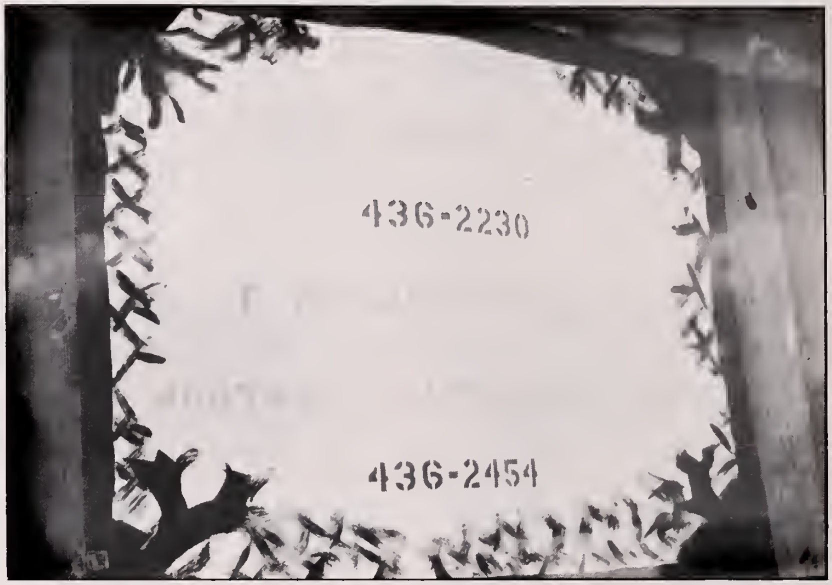
EDITOR'S DESK

by Jordan W. Burkey, M.D.

Most of us are careful of our image concerning alcohol intake, but . . .

It's time to face alcohol problems



Ethyl alcohol intoxication is a major medical problem which physicians have to deal with — if not in our offices, then on the highways, dodging cars being maneuvered by the classical "drunk drivers."

Doctors, perhaps, have been too casual in dealing with alcohol in the past. Witness this picture of a sign in the front window of a doctor's office which I took a few years ago in a small western town. Most of us are careful of our images concerning alcohol intake, but there are estimates that up to 10% of practicing physicians have an "alcohol problem." Handling alcoholics in the office is not the most desirable chore for most of us, but it is a facet of medical practice which we must face.

Last fall, the *Journal of the American Medical Association* devoted an entire issue to alcoholism and related disease. In a small way, *Missouri Medicine* is, this month, at least referring to the problem. Dr. Bordy's article discusses alcoholism and diabetes, while a two-part, in-depth discussion on withdrawal syndromes by Dr. Alpert begins in this issue. Alcoholism treatment centers are springing up everywhere, and are heavily advertised; there must be money to be made in managing these problems. As physicians we need to be sure that treatment stays in the main line of medical knowledge and practice. ■

Alcohol Withdrawal Syndromes

Part I: Recognition and Pathogenesis

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The alcohol withdrawal syndromes are a group of clinical disorders that occur in some chronic alcoholics following the cessation of drinking. Treatment of delirium tremens — potentially the most dangerous syndrome — hinges on early recognition. In Part I of this article, the author reviews the signs of delirium tremens and the other syndromes, and discusses three theories of their pathogenesis.

Next month, in Part II, the author will discuss the management of the patient with delirium tremens.

In 1813, Thomas Sutton, a physician living in Greenwich, England, coined the term "delirium tremens" to describe a florid state of consciousness that he observed in some sailors who were known to imbibe large quantities of alcohol.[1] The syndrome had been described and related to alcohol abuse as early as 1787. Ware noted that an alcoholic spree in a usually temperate person, no matter how prolonged, rarely resulted in delirium tremens. This observation was supported by Jeliffe and White who, in 1935, reported that the syndrome of delirium tremens occurred almost exclusively in alcoholics whose drinking was chronic and sustained and occurred much less commonly in drunkards who were thrown in jail following alcoholic sprees.[2]

Piker, in 1937, noted that 75% of his patients who developed delirium tremens had continued drinking until the onset of their delirium.[3] In 1953, Victor and Adams observed that transient episodes of tremulousness, distorted sensory perception, convulsions, as well as the full-blown syndrome of delirium tremens, were a closely related group of disorders that appeared to follow absolute or relative abstinence from alcohol.[4]

Isbell et al, in 1955, showed that the clinical manifestations of alcohol withdrawal could be precipitated only by a rapidly falling blood alcohol level.[5] They also noted those who were continuously intoxicated for 48 days or more were much more likely to develop florid delirium tremens than were those who went on periodic drinking binges.

Although the clinical manifestations of alcohol withdrawal have been known for nearly two centuries, confusion still exists concerning their recognition and management. The objectives of this review are to describe the clinical features of the alcohol withdrawal syndromes, to speculate on the pathogenesis of these syndromes, and to provide specific recommendations for their management.

Clinical Manifestations

Eight to twelve hours following the cessation of drinking, often following a night's sleep, the alcoholic will feel "nervous" and exhibit generalized irritability. Nausea and vomiting are common, and tremulousness is present. The symptoms may follow sustained drinking, but may also follow a relatively short alcoholic spree. This clinical constellation is often referred to as "the shakes" or "the jitters." The alcoholic will usually seek to blunt the unpleasantness by further alcohol consumption and by doing so, perpetuates the cycle. This cycle continues for a variable period of time, usually several weeks, and terminates when the alcoholic, for one reason or another, stops drinking.

Abstinence in the chronic alcoholic may be voluntary, but more commonly is enforced by situations that may or may not relate directly to drinking. These include hospitalization for an unrelated illness, trauma, surgery, weakness, nausea and vomiting due to gastritis, or lack of money. For whatever reason, when the alcoholic who has been drinking steadily suddenly stops drinking, a number of relatively discrete clinical syndromes may evolve.[6, 7]

Alcoholic Tremulousness

Alcoholic tremulousness[6-12] generally begins 24-36 hours following the cessation of drinking. It is a clinical complex consisting of overalertness, insomnia, inattentiveness and occasionally mild disorientation to time. Patients with alcoholic tremulousness startle easily and are often quite irritated at attempts at questioning or conversation. Nausea, vomiting and anorexia are commonly present. The patient appears flushed and usually exhibits tachycardia. A generalized tremor at 6-8 cycles/second is present and improves with sedation. Most of the symptoms last two to three days. The overalertness and the propensity to startle easily, however, may last ten to 14 days and may provoke resumption of drinking.

Alcoholic Hallucinosis

Approximately 25% of patients with alcoholic tremulousness will exhibit perception disorders. They may take the form of bad dreams, nightmares, illusions or frank visual, auditory, tactile or olfactory hallucinations.[6-12] Hallucinations are commonly animate, taking on human, animal or insect form. They generally have their onset 24 hours following withdrawal of alcohol and last two to three days (rarely, up to eight days). The hallucinations may be unpleasant, but victims rarely appear to be overly concerned by their presence. Most patients who develop hallucinosis retain the symptoms of alcoholic tremulousness. The presence of tremulousness or hallucinosis in no way predicts whether the patient will later develop delirium tremens.

A separate subset of alcoholic hallucinosis bears special attention. It is known as the syndrome of acute and chronic auditory hallucinosis.[9] The timing is similar to that of the previously described hallucinatory phenomena. Auditory hallucinations commonly take the form of voices, which are usually exteriorized (coming from behind the door or from outside of a window) and are frequently maligning and reproachful. Rarely, the hallucinations are unformed, e.g. bells or buzzes.

The patient will frequently react "appropriately" to the grossly abnormal perception (such as calling the police for protection from intruders). In this particular variety of hallucinosis, the patient commonly exhibits auditory hallucinations to the exclusion of the other symptoms of alcohol withdrawal. A small minority of those with acute auditory hallucinosis will go on to develop a chronic form of hallucinosis that may be indistinguishable from paranoid schizophrenia.

Withdrawal Seizures

Seizures are common in the setting of alcohol abuse. Alcohol lowers the seizure threshold so that those with a seizure diathesis unrelated to alcohol are more likely to convulse when the blood alcohol level is high. Furthermore, the chronic alcoholic is prone to trauma of all types and may develop seizures as a manifestation of head injury.

Withdrawal seizures, (also known as rum fits),[6-13] are seizures that occur when the blood alcohol level is falling. They commonly occur eight to 48 hours following the cessation of drinking. There are usually a total of two to six seizures. Occasionally, a patient has a single seizure or more than six. Status epilepticus is rare. The seizures are of the typical grand mal type. There is an increased sensitivity to stroboscopic stimulation, a relatively uncommon phenomenon with grand mal seizures resulting from other causes. Focal seizures are not caused by alcohol withdrawal. When they occur in the alcoholic, a careful search for focal neurological disease is indicated. Approximately one-third of patients who suffer withdrawal seizures will develop delirium tremens.

Delirium Tremens

Delirium tremens is the most extreme form of alcohol withdrawal syndrome. It is a flamboyant, frightening disorder that carries an extremely high mortality (5-15%).[6-14] A major reason for the high mortality is related to the inability of many clinicians to differentiate between the syndromes of tremulousness, hallucinosis, and the more dangerous delirium tremens. In other words, many physicians believe they are dealing with delirium tremens when in fact they are not. Conversely, some physicians think they are treating tremulousness and hallucinosis when in fact they are dealing with delirium tremens. In the latter situation, the unwary physician may be lulled into a false sense of security and may remain unaware of the profound physiologic changes that may lead to vascular collapse and death. Early recognition of this potentially lethal syndrome is key to a satisfactory outcome.

The initial symptoms of delirium tremens generally begin three to five days following the cessation of drinking. Occasionally the syndrome begins six or more days after the last drink. Rarely, it starts as late as 10 to 12 days following withdrawal of alcohol. In approximately 80% of the cases, the symptoms run their course within 72 hours. Recurrences during the same hospitalization are rare. Delirium tremens is generally preceded by alcoholic tremulousness, hallucinosis or withdrawal seizures. These other withdrawal syndromes, however, do not serve as prerequisites for its occurrence. It is not uncommon for the delirium tremens syndrome to be ushered in by a dramatic precipitating event, e.g. a seizure or a loud noise.

The initial symptoms of delirium tremens are non-specific. The patient has difficulty concentrating and is restless and irritable. Insomnia is present and anorexia is common. Tremulousness is a prominent feature. Thereafter, the patient develops progressive alteration of sensorium. He or she is inattentive and is generally disoriented to time, place and sometimes to person. Garrulousness, incoherence and hyperirritability may be prominent features. Insomnia becomes relentless. Vivid visual, auditory, or tactile hallucinations occur and are generally quite disturbing to the patient. Finally the patient develops the physiologic changes that set this syndrome apart from the other alcohol withdrawal syndromes and from other forms of delirium.

Tachycardia is present, with heart rates commonly reaching 130-150 beats per minute. There is gross tremor. Hyperthermia may occur even in the absence of infection. The body temperature usually stays between 100-103° F, but occasionally reaches 104-105° F and, rarely, 106° F. Hyperventilation, in part related to the hyperthermia, is common. Diaphoresis may be quite pronounced and may result in large fluid loss. Diarrhea may occur and may account for further copious fluid loss. The face is usually flushed and the conjunctivae injected. The pupils become dilated.

Patients who develop profound blood volume depletion may suffer vascular collapse and death. This facet of the syndrome has been likened to a metabolic or autonomic storm, a result of overactivity of the sympathetic nervous system. As the clinical manifestations of delirium tremens abate, the patient, exhausted, falls into a deep and prolonged sleep that may last up to 24 hours. If there are no complicating factors, the patient awakens from this sleep physically drained but otherwise sound.

Not all patients who experience delirium tremens exhibit the florid symptoms described here. In some, the degree of agitation may be less extreme and the autonomic overactivity less marked. It is, however, impossible to predict which patient will exhibit the more severe manifestations of the syndrome. Therefore, the more florid disorder should be anticipated in all patients who experience delirium tremens. Rarely, a patient will develop what is known as a "quiet" or "hypokinetic" delirium with few autonomic manifestations. Atypical delirious or hallucinatory states may also occur where the patient exhibits accentuation of only one facet of the typical syndrome.

Complicating Factors

The alcoholic is prone to a variety of disorders that may complicate the course of alcohol withdrawal and increase morbidity and mortality. These include infection, trauma, hepatic failure, hypoglycemia, and cardiovascular problems.[14]

Infections are the most prominent and important complications. The presence of fever in a patient withdrawing from alcohol should prompt a careful search for a source of infection. Pneumonia is particularly common. Most authorities agree that lumbar puncture is indicated for the hyperthermic alcoholic with altered mental status to evaluate for the presence of meningitis.

Traumatic damage to the central nervous system is always a possibility in an alcoholic with altered mental status. Concussion occurs commonly. Subdural hematoma occurs less commonly, but may produce subtle neurological changes. Basilar skull fractures with epidural hemorrhage generally produce coma and profound neurological deficits. Skull x-rays are indicated when trauma is suspected in the withdrawing alcoholic. Opinion is divided, however, concerning the need for routine use of more sophisticated diagnostic tools such as computed tomography.

Hepatic failure may at times be confused with delirium tremens, but more often coexists with it. The patient with delirium tremens usually has a florid state of consciousness while the patient with hepatic coma is generally drowsy. Hyperreflexia may occur with either syndrome. The presence of fetor hepatis, asterixis, and the stigmata of cirrhosis should suggest the possibility of hepatic failure in the chronic alcoholic. A difficult therapeutic problem exists when the two syndromes coexist, as all of the sedatives in popular use may precipitate or aggravate hepatic encephalopathy.

Upper gastrointestinal bleeding may occur in the patient in alcohol withdrawal just as it may in any alcoholic. The likely source is the stomach due to gastritis or a bleeding peptic ulcer. Variceal bleeding must also be considered. If the patient has been retching and vomiting, the possibility of the Mallory-Weiss syndrome should be considered.

The chronic alcoholic is often malnourished and frequently lacks adequate glycogen stores in the liver. Alcoholic hypoglycemia may ensue and complicate alcohol withdrawal. This form of hypoglycemia may be particularly refractory to intravenous glucose therapy and may require sustained infusion of 10% glucose in water to achieve normalization of the blood sugar.

A critical situation exists when a patient with delirium tremens develops acute myocardial infarction. In such patients, sedation without hypotension is essential. Central hemodynamic monitoring with a Swan-Ganz catheter is advised to aid with maintenance of normal intravascular blood volume. The presence of congestive heart failure apart from or in the accompanying setting of acute myocardial infarction presents a further therapeutic challenge to the clinician.

Pathogenesis

Considering the historical perspective of the alcohol withdrawal syndromes, the relative dearth of information concerning pathogenesis is surprising. Although no single biochemical or physiologic explanation for the clinical features of alcohol withdrawal has been confirmed experimentally, three theories have received attention in the recent literature.

The Role of Magnesium

Hypomagnesemia is known to cause a clinical syndrome consisting of hyperreflexia, carpopedal spasm, photosensitivity, and tremulousness.[15] Behnke and others have demonstrated that magnesium levels in the blood early in withdrawal are consistently low.[10] Investigators have sought to correlate these two observations and attribute the clinical manifestations of alcohol withdrawal to magnesium deficiency. Although administration of magnesium partially ameliorated tremors and hyperirritability in magnesium-deficient patients, the withdrawal syndromes themselves did not abate.

Furthermore, and most importantly, the administration of magnesium did not prevent the development of delirium tremens. Indeed, even in those who did not receive magnesium parenterally, the serum magnesium level often returned to normal by the time delirium tremens appeared. It therefore seems that magnesium does not play a substantial role in the genesis of the alcohol withdrawal syndromes although a low serum level may serve to aggravate some symptoms early in withdrawal.[9]

The Role of Alkalosis

Patients who are chronically intoxicated with alcohol have a sustained mild depression of the respiratory center. It is thought that a sudden cessation of alcohol intake produces a rebound hypersensitivity in the carbon dioxide concentrations in the cerebrospinal fluid,[9, 16] which leads to respiratory alkalosis. Hyperventilation due to agitation may potentiate this phenomenon. Respiratory alkalosis occurs approximately eight hours following the cessation of alcohol consumption. The subsequent decrease in the blood carbon dioxide tension eventually results in an increase in spinal fluid pH, causing cerebrospinal fluid alkalosis.[9, 16]

Alkalosis causes cerebral vasoconstriction, which may reduce cerebral perfusion as much as 40% and serves to lower the seizure threshold. Alkalosis has therefore been implicated in the genesis of alcoholic tremulousness, hallucinosis, and withdrawal seizures. How much of a role it plays in causing or aggravating these entities remains unknown. It is known, however, that the alkalosis spontaneously corrects itself in 18 to 48 hours. Thus, it appears to play no role at all in the development of delirium tremens. Respiratory alkalosis commonly reappears during florid delirium tremens, but this is thought to be related to hyperventilation secondary to agitation and hyperthermia. The role of respiratory alkalosis in the development of the alcohol withdrawal syndromes is open to speculation. Research has not shown a definitive causal relationship between alterations in acid/base physiology and the clinical manifestations of alcohol withdrawal.[9]

The Role of Catecholamines

The third theory of pathogenesis that has gained some degree of prominence involves the possible role of catecholamines.[9] Alcohol is metabolized to acetaldehyde in the liver, a reaction catalyzed by alcohol dehydrogenase. In the liver, acetaldehyde is converted to acetate and acetyl-CoA and enters the Kreb's cycle to be metabolized to carbon dioxide and water. In the central nervous system, acetaldehyde is thought to condense with catecholamines in central nerve terminals to form substances that may act as false transmitters. The bombardment of receptor sites with false transmitters may in and of itself result in a greater than normal number of signals to the receptor, or it may modify receptor sensitivity.

Following the withdrawal of alcohol, and thus the acetaldehyde substrate, it is postulated that either receptors with enhanced sensitivity over-respond to normal quantities of true transmitters, or that false transmitters are suddenly released, causing overstimulation of the receptors and thus heightened neural excitement. There is some experimental evidence that this occurs in cats. A syndrome consisting of restlessness, tremors, heightened sympathetic activity, hyperpyrexia, hyperventilation, and hallucinatory behavior has been reported to occur after treatment with L-DOPA and monoamine oxidase inhibitors, substances known to facilitate storage and release of norepinephrine.[9] The catecholamine theory bears further investigation.

Next month, in Part II, the author will discuss the management of the patient with delirium tremens.

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The Relationship of Chronic Alcoholism and Type I Diabetes Mellitus

A Preliminary Report

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This study of 100 families of Type I diabetic patients (insulin-dependent diabetics) and of 100 families of non-diabetic patients demonstrates a significantly greater number of alcoholics among the parents of the diabetic group.

This family history study of patients with Type I diabetes mellitus (DM) was prompted by the observation that chronic alcoholism appeared prevalent among families of diabetic patients. Previous investigators have noted familial clustering in patients with Type II DM,[1-7] as well as in patients with chronic alcoholism.[8-13]

Methods

Family histories — including those of siblings, parents, grandparents, aunts and uncles — were obtained from 200 Type I DM patients and from 100 non-diabetic controls. Subjects in both groups were taken from the private practice of one of the authors (15%), the Diabetes Clinic at The Children's Mercy Hospital (KC) (81%), and from medical students at the University of Missouri-Kansas City (4%). The ages of the probands in both groups ranged from six weeks to 24 years. A concerted effort was made to make the study group and the control group comparable in age and economic status. If there was more than one child with diabetes in a family, this was counted as one history.

Comparison was made between the 200 Type I DM patients and the 100 controls. In addition, a second comparison was made between a 100-patient subset of the 200 Type I DM patients chosen with a random number table (Group I) and the 100 controls (Group II). The statistical analysis of this second comparison was the more conservative, and these results are reported here.

The interviews were obtained by one interviewer from the proband, a parent, (generally the mother), and, on occasion, other relatives. In the history, emphasis was placed on the presence of an American Indian heritage, heart disease, cerebral vascular accidents, hypertension, obesity, cancer, hyperthyroidism, hypothyroidism, hypoglycemia, miscarriages, blindness, deafness, and cataracts.

In a 1979 report of the National Diabetes Data Group, Type I DM was defined as all insulin-dependent diabetic patients.[14] Type II DM, as defined in the same report, refers to non-insulin-dependent diabetic patients.

When this study was initiated, there were no published criteria for a definition of chronic alcoholism nor were there any criteria made available from the Council on Alcoholism. Therefore, the definition of chronic alcoholism used in this study included all four of the following components: 1) ingesting a pint or more of "hard" liquor a day; 2) ingesting an alcoholic beverage on arising or before breakfast; 3) becoming obviously intoxicated each day, and 4) becoming intoxicated every time ingestion of alcoholic beverages was begun.

Subsequently, Spalt[15] defines alcoholism as being present when patients had symptoms in at least three of the following groups: Group I includes withdrawal symptoms, medical complications, blackouts and binges; Group II includes inability to stop drinking, attempted control, and drinking before breakfast; Group III includes difficulty with the law, traffic violations, trouble at work and fighting; Group IV includes the person who thinks he drinks too much, who feels guilty as a result, who has lost friends and whose family and friends have voiced objections to his drinking. The chronic alcholics in this study, in retrospect, generally fit into all four groups.

In all families interviewed, alcoholism in the parents appeared to predate the birth of their children. In the case of the grandparents, alcoholism had predated the birth of their children.

The 300 histories were processed by the University of Missouri computer system.[16] The proportions in 2 x 2 tables were analyzed by χ^2 test performed on a Z-80 based microcomputer.

Results

Fifty-one individuals in Group I (Type I DM) and 47 in Group II (no DM) had a diabetic relative. The difference between these two groups is not significant. In Group I, there were 11 diabetic parents; in Group II there were 20 diabetic parents. In neither group did a child have two diabetic parents. Forty-four of Group I and 36 of Group II had grandparents with diabetes.. None of these differences are significant. In Group I, 22 had an aunt or uncle with diabetes in contrast to the control group, in which 10 had an aunt or uncle with diabetes (Table I).

One or more individuals in 54 families of patients in Group I were considered to have chronic alcoholism. In contrast, only 28 families of Group II had an alcohol problem. In this comparison, there is a highly significant difference. When only the parents were considered, there were 20 in Group I and only four in Group II who were alcoholics. This too is a highly significant difference. The differences between Group I and II grandparents, aunts and uncles were not significant (Table II).

Table I

Diabetes Mellitus in the First and Second Degree Family Members of 100 Diabetic Patients and Their Controls

	Group I	*Group II*	χ^2
Number with Diabetic Relatives	51	47	0.32
Number without Diabetic Relatives	49	53	
Number with Diabetic Parents	11	20	3.09
Number without Diabetic Parents	89	80	
Number with Diabetic Grandparents	44	36	1.33
Number without Diabetic Grandparents	56	64	
Number with Diabetic Aunts and Uncles	22	10	5.36*
Number without Diabetic Aunts and Uncles	78	90	

* The 5% significance level for χ^2 is 3.84

Table 2

Chronic Alcoholism in the First and Second Degree Family Relatives of 100 Diabetic Patients and Their Control

	Group I	*Group II*	χ^2
Number with Alcoholic Relatives	54	28	13.97*
Number without Alcoholic Relatives	46	72	
Number with Alcoholic Parents	20	4	12.12*
Number without Alcoholic Parents	9	96	
Number with Alcoholic Grandparents	31	20	3.18
Number without Alcoholic Grandparents	69	80	
Number with Alcoholic Aunts and Uncles	22	15	1.62
Number without Alcoholic Aunts and Uncles	78	85	

* The 5% significance level for χ^2 is 3.84

Discussion

Our study suggests that parents and siblings (first-degree relatives) and grandparents, aunts and uncles (second-degree family members) of Group I patients had significantly more chronic alcoholism than did the family members of Group II. The association of chronic alcoholism and diabetes was not as strong in the grandparents, aunts and uncles. Those differences that do exist become less marked the further the relative is removed from the proband. This is as one would expect from a multifactorial genetic trait.

The etiology of Type I DM is being studied by many investigators. A recent summary of this work was presented by Rossini.[17] Spalt[15] and others[8-13] have suggested that chronic alcoholism may be an inherited trait. This study suggests a possible relationship between Type I DM and chronic alcoholism that warrants additional investigation.

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Mammary Tuberculosis

A Rare Disease Which May Mimic Carcinoma of the Breast

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Kansas City, Missouri

Mammary tuberculosis is a rare disease, the diagnosis of which is difficult because clinical and radiological appearances are not specific and because detection of the tubercle bacillus from the lesion at the time of the biopsy is seldom possible. In this case report, the bacillus was readily identified. The authors review the literature and discuss treatment methods.

The first description of tuberculosis (TB) of the breast was reported in 1829 by Cooper,[1] who recorded "scrofulous swellings in the bosom" of young women. Since that time articles regarding mammary tuberculosis have appeared in the medical literature by different authors from various countries.[2-6] However, this disease remains a rare clinical presentation of Mycobacterium tuberculosis. Its incidence has further diminished with the advent of antituberculous chemotherapeutic agents and the general decline of the disease in developed countries. Yet, even when TB was endemic, the breast was a rare site.[7-9]

Klossner, in examination of 75,000 cases of patients with pulmonary tuberculosis in 1944, could find only 50 cases with breast involvement. In the 34 necropsies performed by Nagashima in 1925, there were no breast involvements.[10] Morgen, after reviewing the entire medical literature in 1931, found only 439 cases, including 20 men.[9] By 1955, Schaefer showed that there had been 520 additional cases reported since the previous review. He added 10 cases of his own.[11] Ikard found six cases of mammary tuberculosis among 1,141,299 patients seen at Vanderbilt University Hospital between 1937 and 1973.[12] More recently, in reviewing cases of 67 women in South Africa with mastitis, Cohen reported that 34 had mammary TB.[4] On reviewing 1,165 cases of living women with all kinds of breast diseases over an 11-year period, Mukerjee et al found only 14 cases of tuberculous mastitis.[13] Alagaratnam and Ong[2] reported 16 cases of tuberculous mastitis out of 1,356 surgically treated patients with breast diseases at Queen Mary Hospital in Hong Kong over a period of 25 years. The overall incidence is estimated to be between 0.5% and 1.5% of all surgically treated breast diseases.[6] Most recent and larger studies have come from South Africa[4, 5] and India,[13] where tuberculosis is still prevalent.

We are reporting a case of mammary tuberculosis for four reasons: First, it is of surgical importance as a rare cause of a lump in the breast that may be mistaken clinically and radiologically for carcinoma. Second, it

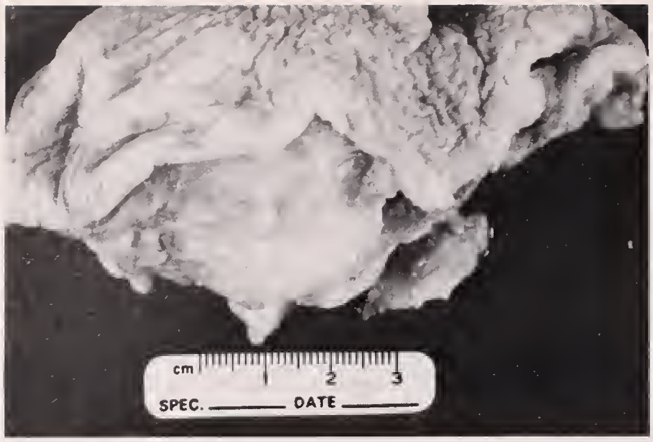

Figure 1. Simple mastectomy specimen. The large, firm, partly necrotic residual mass is seen here just under the skin. It was neither fixed to the chest wall nor to the skin.

is of general interest, being one of the rarest manifestations of tuberculous infection. Third, there is continuous migration of people from areas where tuberculosis is still prevalent to those areas where it is less likely to be suspected. Last, we would like to discuss the controversial aspects of its treatment.

Case History

A 65-year-old, institutionalized white woman with a history of mental retardation and cerebral palsy was admitted to the hospital because of a painful mass in her right breast. There was no history of tuberculosis or cough. Physical examination revealed a debilitated and disoriented woman. There was erythema over the mass, located in upper outer quadrant of the breast. The nipple appeared normal. Axillary and cervical lymph nodes were not palpable. There were diminished breath sounds over the lower left lung field.

Laboratory studies, which included complete blood count, serum electrolytes, liver function tests, urinalysis and kidney function tests, showed normal results. Mammography revealed non-specific glandular changes, although malignancy could not be excluded.

The chest x-ray showed calcification and a non-specific infiltrative process in the lower left lung.

The initial excisional biopsy showed caseating granulomas. The Ziehl-Neelsen stain revealed acid-fast bacilli in histopathologic sections. This prompted a second review of chest x-rays as well as examination of urine, gastric content and sputum for acid-fast bacilli. Skin test with Purified Protein Derivative (PPD) was reactive and measured 20 mm in diameter after 72 hours. Smears of the sputum were initially negative for acid-fast bacilli. The patient underwent simple mastectomy and a nine-month regimen of isoniazid and rifampin was instituted.

Pathology

The excised mass measured 4.0 cm in diameter. The pathologic changes of both the biopsy and residual mass in the mastectomy specimen were similar. The skin, although erythematous, was not ulcerated, and the mass was not fixed to the chest wall (Fig. 1). Its cut surface was reddish-tan with focal necrosis similar to a neoplasm. Paraffin sections stained with hematoxylin and eosin, Ziehl-Neelsen, periodic acid-Schiff, and Grocott's methanamine silver were examined for histological appearance and the presence of acid-fast bacilli and fungi. The sections were characterized by numerous centrally caseating granulomas composed of epithelioid and giant cells as well as lymphocytes (Figs. 2, 3). The adjacent tissue showed remnants of mammary lobules and ductules as well as fibrosis and intense chronic inflammatory cell infiltrate. Ziehl-Neelsen stains also revealed acid-fast bacilli in the mastectomy specimen. These were later confirmed by the Missouri State Health laboratory in Jefferson City as Mycobacterium tuberculosis, sensitive to the drugs which the patient was receiving.

Sputum culture became positive for acid-fast bacilli after two weeks. A diagnosis of pulmonary tuberculosis with secondary but prominent right breast involvement was made. The patient was discharged on isoniazid and rifampin with arrangements for periodic monitoring of the liver function tests, platelet count and bleeding time.

Discussion

In the past, mammary tuberculosis was predominantly a disease of women of childbearing age, often unilateral and at times present without historical, clinical or radiographic evidence of previous tuberculous infection.[1, 14] Although about 60% of the reported cases of mammary gland tuberculosis have been termed "primary" because of apparent lack of extramammary gland involvement, many believe that nearly all cases are secondary.[11] This concept, however, has been controversial despite the fact that Morgen in his classic review categorically stated: "the classification of mammary tuberculosis into primary and secondary forms is basically unscientific and there is no absolute criteria or proof whether a case is primary or not."[9] McKeown and Wilkinson[14] as well as Wilson and MacGregor[15] were able to document cases of primary mammary tuberculosis.

Since tuberculosis rarely involves the mammary gland[2, 10, 16] its clinical diagnosis will always remain problematic in routine examinations unless physicians maintain high index of suspicion. Suspicion should arise if and when a woman with a breast mass comes from an environment where the incidence of tuberculosis is relatively high.[17] Ikard and Perkins,[12] reporting in 1977, stated that of the 41 cases reported in English literature since 1950, five were from a population of Canadian Indians in which tuberculosis was prevalent. Sixteen were reported from India, where tuberculosis was said to cause 4% of surgically treated breast disease. In recent times "pockets" of tuberculosis have appeared in areas of the United

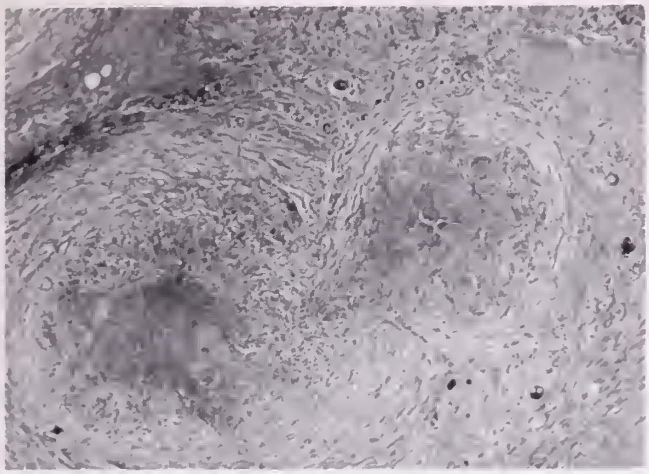

Figure 2. Two contiguous caseating granulomas. Numerous granulomas like these were seen, replacing mammary lobules and ducts.

States where immigrants from southern Asia have settled.[17]

The physician should also suspect mammary TB in a patient who is debilitated, undernourished and who may have a suspicious and an unexplained radiological pulmonary infiltrate. Alternatively, if a patient with known pulmonary tuberculosis develops a breast mass, a tuberculoma should be considered. In this case, as in most cases, mammography is not specific.[17, 19, 20, 21] The correct diagnosis is rarely made without biopsy.

The differential diagnosis of granulomatous lesions of the breast revealing acid-fast bacilli on histopathologic examination, and further confirmed by culture studies, must be limited to the Mycobacteria. However, there are many times when the granulomas, on histologic examination as well as culture, are negative for acid-fast bacilli. One must then consider not only other bacterial, fungal or protozoan diseases but foreign body reactions and sarcoidosis. In recent years, a newly described inflammatory, non-infectious, lesion of the breast that primarily affects premenopausal women has been recognized and entitled "granulomatous mastitis."[3, 22] It is characterized by the development of a painless mass that resembles carcinoma on clinical examination. The diagnosis of this type of granulomatous mastitis is complicated by the fact that only about 25% of true mammary tuberculosis will show acid-fast bacilli in histologic sections.[2, 9, 12] It is therefore imperative that tissue be submitted for culture and sensitivity studies. An immediate application of skin test for TB with appropriate interpretation will further aid in arriving at the correct diagnosis.

The histogenesis of mammary TB is not well understood. There is a general agreement that tubercle bacilli may reach the breast through blood vessels[11] or lymphatics in a retrograde pattern[10] as well as by direct extension from adjacent tissues.[11, 14, 21] Presence of the tubercle bacilli evokes an inflammatory reaction in the lobules and in the interlobular tissue.

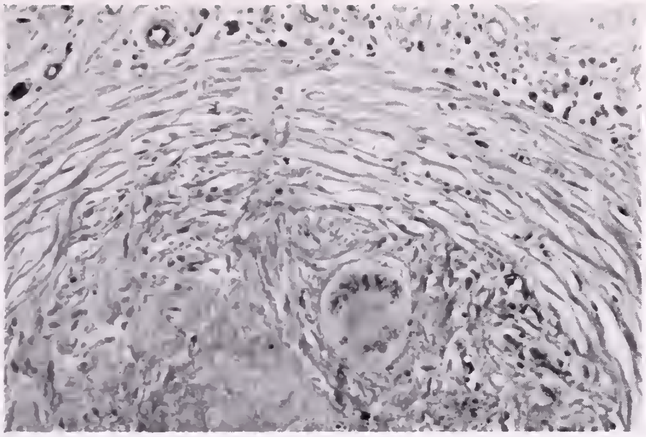

Figure 3. High-power magnification of a typical tubercle granuloma showing a giant Langhans' cell.

This mode of spread indicates that direct inoculation is rare. It has been suggested that the breast, skeletal muscle, and spleen — as compared to other tissues — are unusually resistant to invasion by tubercle bacilli.[22] The basic clinicopathologic classification of mammary tuberculosis has been reported.[6, 11]

Mammary tuberculosis clinically mimicking carcinoma of the breast has been a subject of several reviews.[8, 15, 24-27] The two diseases may coexist in the same breast.[8, 25] A confident differential diagnosis can rarely be made by clinical examination alone. Haagensen[6] accepted as the bases for differentiation 1) the young age of the patients, 2) the complaints of local pain and purulent discharge, and 3) the presence of active tuberculous foci in other parts of the body. However, such clinical criteria are unreliable as many patients older than 50 years, including this one, have been reported to have tuberculous mastitis. In many cases, there is no discharge and tuberculosis elsewhere in the body is not evident. Because mammography is also non-specific, histologic examination and acid-fast bacillus identification are the hallmark of diagnosis. Diagnosis based on cytologic examination by thin needle aspiration of a breast mass suspected to be carcinoma has also been reported.[26, 27] There is no evidence that mammary tuberculosis predisposes to carcinoma.[8]

There are no definitive therapeutic guidelines available for mammary tuberculosis. Without treatment, mammary tuberculosis usually results in death within 12 months. In the past, radiotherapy,[12] surgery,[13] and chemotherapy have been utilized in various combinations.[6, 9, 12, 13] Cooper, in his 1829 report, recognized correctly that this was not simply a breast infection but part of a systemic disease. For reasons unknown, Cooper advised against any surgical treatment and favored only a medical approach. His medical approach at that time was: "The treatment in this case consists of improving the constitution by a warm and dry atmosphere — by equally regulated temperature — by tepid sea bathing — by gentle and regular exercise — by animal food of the more digestible kind — by milk — by a farinaceous diet — a diet which nourished without exciting feverish heat or calling much upon the powers of digestion."[28]

This concept was used by many practitioners, and the therapeutic practice thereafter heavily depended on surgical intervention with varying extent of tissue removal ranging from local curettage to radical mastectomy.[9] With the availability of antituberculous drugs, the role of surgery again became controversial. McKeown and Wilkinson, in 1952, claimed that antituberculous drugs would obviate surgical treatment.[14] However, several reports since 1952 have shown that chemotherapy alone, in most cases, is clearly not adequate.[4, 11, 12, 15, 16] In unreliable populations and especially in those who also have large tuberculoma, remissions rarely occur if adjunctive chemotherapy is not given.[15] Perhaps the best treatment is lumpectomy with preoperative and postoperative drug therapy. Because of the rarity of the disease, a prospective study for finding the effectiveness of combined medical and surgical treatment as compared to medical treatment alone has yet to be done.

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The authors wish to acknowledge the assistance of Cleo Harris for preparing histological slides and of Dr. J. Dorsten for interpreting the chest x-ray and mammograms. They would also like to thank Elaine Josyln, the senior medical student who helped with the patient care, for obtaining material for study.

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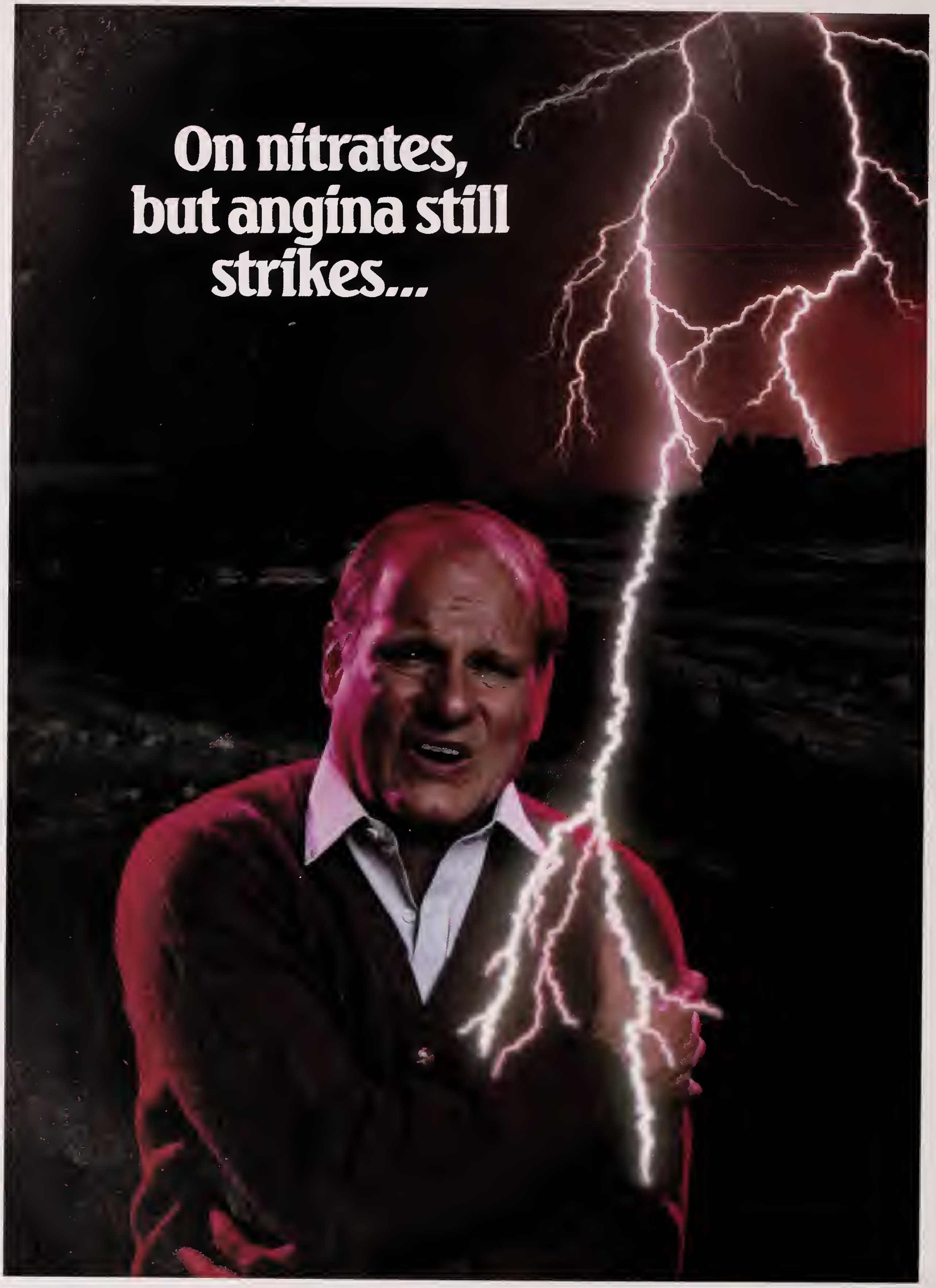
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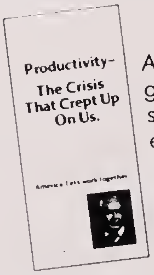

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Medical School News

The University of Missouri-Columbia

- **Nancy Solomon, M.D.** and **E. Lee Forker, M.D.** have been appointed associate deans at the University of Missouri-Columbia (UMC) School of Medicine, announced **Dean William Bradshaw, M.D.**

Drs. Solomon and Forker, both faculty members at the School of Medicine, will replace interim associate deans **Douglas Griggs, M.D.** and **Wallace Rogers, M.D.**, who will resume their teaching and research duties at the school, Dean Bradshaw said.

Dr. Solomon, who joined the UMC faculty in 1983 as clinical assistant professor of psychiatry and an administrative director at the Mid-Missouri Mental Health Center, held previous positions at Yale University and the University of California-Los Angeles. Her research has focused on the effects of alcohol and smoking on the digestive function of the pancreas. As associate dean, she will be responsible for curricular revision and for promoting academic achievement by the school's 450 students.

Dr. Forker, formerly professor of medicine and chief of the hepatology service at the University of Iowa, joined the UMC faculty in 1980. As professor of medicine and physiology at UMC, he won the Chancellor's Award for outstanding research and has served as president of the national subspecialty society of hepatologists. He currently is editor for liver related research of the AMERICAN JOURNAL OF PHYSIOLOGY.

In making his announcement, Dean Bradshaw praised both Drs. Rogers and Griggs for outstanding service during the transition interval between the departure of former Dean Charles Lobeck and Dr. Bradshaw's appointment as dean. Dr. Lobeck, who left the dean's office in 1982 and later served on the faculty, this year became associate dean for academic affairs at the University of Wisconsin.

- **Myron Toews, Ph.D.**, assistant professor of pharmacology at the UMC School of Medicine, has received a three-year grant of $167,921 from the National Institutes of Health for a study of "Mechanisms of Desensitization of Adrenergic Receptors."

- **Robert Burns, M.D.** professor and chair of the Department of Ophthalmology, has received a three-year grant of $363,947 from the National Eye Institute for a study of "Ocular Pathology in Melanomatous Animals."

- **Kim Wise, Ph.D.** associate professor of microbiology, has received a three-year grant of $171,551 from the National Institute of Arthritis, Diabetes, Digestive and Kidney Diseases for a study of "Molecular Basis of Mycoplasma Immunopathology."

- **Francis Schmidt, Ph.D.** associate professor of biochemistry, has received a three-year grant of $106,618 from the National Science Foundation for a study of "Gene Structure of an RNA Processing Enzyme."

- **Walter Levy, M.D.** assistant professor of neurosurgery, has received a two-year grant of $160,000 from the American Paralysis Association for a study of "The Identification of Improved Methods for Treatment of Spinal Cord Injury Using a Two-Armed Approach: Diagnostic Tools and Evaluation of Treatment of Axons."

University of Missouri-Kansas City

- Sixteen students from the University of Missouri-Kansas City School of Medicine were accepted for inclusion in the 1985 edition of Who's Who Among Students in American Universities and Colleges. Campus nominating committees and editors of the annual directory select students on the basis of academic achievement, community service, leadership in extracurricular activities, and potential for continued success.

Names and biographical data will appear on: **Keith Bernstein; Alan Braverman; Lisa Darton; David Diemer; Mary Beth Esswein; Kenneth Fine; Michael Funderburk; Cynthia Hegg; Robert Levin; Michael Mulligan; Karen Myers; Michelle Pal; Vaughn Payne; Michelle Perez; Skip Sallee;** and **Michael Temporal.**

- **Marilyn S. Darr**, a student in her final year of UMKC's six-year program was the second recipient of the Ruby T. McVean Scholarship Award. The award is awarded to a student with high levels of academic, clinical, and personal performances, and a demonstrated interest in Family Medicine and Geriatrics.

- Several other UMKC students also are medical scholarship recipients. **Michael Mulligan**, a fifth-year student, received an award from the Philippine Medical Association Inc. of St. Louis. In addition, **Michael March** and **David Park**, both in their third year, received awards designated for entering students from the Southern Medical Association.

- **David S. Greer, M.D.**, Dean of Medicine at Brown University, visited UMKC in January to see the School of Medicine's facilities and learn about its six-year medical program. Brown University has plans for a new seven-year combined baccalaureate medical degree, called "Program in Liberal Medical Education," which will admit students directly from high school. A Harvard University team made a similar fact-finding visit in November for its "New Pathways" program.

- **Harry Gibbs, M.D.**, and **Reid Smith, M.D.**, were each presented with a Student Appreciation Award for Outstanding Teaching. The awards were presented at an annual spoof and entertainment event, put on by the student body.

- Alpha Omega Alpha has granted a charter for a new chapter, to be designated as Delta of Missouri. Fifteen students in their final year at UMKC School of Medicine will be charter members. A charter for the honorary medical society was presented and members were installed at a ceremony earlier this year.

St. Louis University

■ **Carlos B. Hirschberg, Ph.D.**, professor of biochemistry, has received a five-year, $600,000 grant from the National Institute of General Medical Science to investigate glycosaminogycans which are large polymeric molecules outside the cell.

These polymers occur in many types of tissues such as bone, cartilage, cornea, arterial wall and skin. They have diverse functions that include lubricating tissues, binding tissues to each other and acting as anti-coagulants in the blood.

Dr. Hirschberg's research also addresses basic science questions surrounding the formation of cartilage and bone and how blood remains fluid instead of coagulating.

■ **Carmine J. Coscia, Ph.D.**, professor of biochemistry, has been awarded a three-year, $140,780 grant from the National Institute of Mental Health for his research on the post-natal development of opiate receptors in the brain.

Dr. Coscia's research has potential relevance in establishing whether opiates have any growth effects on post-natal brain development.

■ St. Louis University Medical Center is the only site in St. Louis that has a team trained by the House Ear Institute of Los Angeles, Calif. to implant the 3M cochlear implant device, a small electronic device that is surgically placed in the ear and connected to a pocket-size receiver worn on the body. The device was given FDA approval in late November.

John F. Kveton, M.D., department of otolaryngology, and **Leslie Holliday, M.A.**, audiologist, have been trained by the House Ear Institute to implant the device intended for adults with severe to profound sensorineural hearing impairment who receive little or no benefit from conventional hearing aids.

Washington University

■ The epidermolysis bullosa center at Washington University School of Medicine in St. Louis has received a $20,000 gift from the McDonnell Douglas Employee Charity and Community Services Board.

McDonnell Douglas employees presented the contribution as support for research at the St. Louis center, one of the only sites in the nation to study epidermolysis bullosa (EB).

Eugene A. Bauer, M.D., director, and center researchers are trying to determine causes of various forms of EB, and hope eventually to develop a cure or more effective treatment for the disease. Dr. Bauer is professor of dermatology at the School of Medicine and a physician at Barnes, Children's and Jewish hospitals, sponsoring institutions of the Washington University Medical Center.

■ More than 300 physicians and researchers attended a day-long Infofair on microcomputers in November at Washington University School of Medicine in St. Louis.

It was held in response to the growing number of inquiries on how to use microcomputers to search bibliographic databases, including MEDLINE — the largest and most popular of the computerized databases of medical literature maintained by the National Library of Medicine.

■ **Marcus E. Raichle, M.D.**, professor of neurology and radiology at Washington University School of Medicine, has received the Sarah L. Poiley Memorial Award from the New York Academy of Sciences.

The award was presented in December during the academy's 167th annual meeting in New York City. Dr. Raichle, who was cited for his work in applying quantitative radiotracer techniques to the study of the human brain, shares the award with **Michael E. Phelps, M.D.**, of the University of California-Los Angeles.

Dr. Raichle is also professor of biomedical engineering at Washington University, and a staff physician at Barnes, Children's and Jewish hospitals, all sponsoring institutions of the Washington University Medical Center.

Dr. Raichle is noted for applying positron emission tomography — PET scanning — to study the human brain. His work has included studies of the normal brain and its response to a variety of stimuli, evaluation of patients at risk for stroke, an analysis of certain chemical receptors in the brain, and investigations of the origin and physiology of seizure disorders.

One of his most recent studies involved PET examinations of persons stricken with panic disorder, which is characterized by recurrent, spontaneous attacks of severe anxiety. Dr. Raichle and other Washington University researchers, including **Eli Robins, M.D.**, Wallace Renard Professor of Psychiatry, were the first to identify a biological basis for panic disorder. An abnormality in blood flow drew their attention to an area of the brain thought to play a role in the expression of emotions. An abnormality in this area appears to predispose individuals to these episodes of panic. Further studies now underway should provide a more detailed understanding of the actual brain abnormality and why some drugs seem to be effective in treating panic attack.

■ Two separate services at Washington University School of Medicine in St. Louis have combined operations to create the new Child Guidance Center, located in Children's Hospital at 400 S. Kingshighway Blvd.

The new center was formed when the Child Guidance Clinic moved to Children's Hospital and expanded its program, joining with the outpatient psychiatry service already in existence at the hospital. The clinic had been located at 369 N. Taylor Ave.

"The move to Children's Hospital places the center, for the first time, directly in the medical school environment," said Felton Earls, M.D., director and Blanche F. Ittleson Professor of the William Greenleaf Eliot Division of Child Psychiatry.

The Child Guidance Center is under the medical direction of **Haruo Kusama, M.D.**, assistant professor of clinical child psychiatry at the School of Medicine. It functions as a general outpatient psychiatric program for Children's Hospital, and has developed a strong link with the hospital's inpatient unit, directed by assistant professor of child psychiatry **Zila Welner, M.D.** Both Kusama and Welner are physicians at Barnes and Children's hospitals.

Patients are easily referred to the inpatient unit, and upon discharge are often referred to the guidance center for follow-up treatment.

The center treats children from infancy through 18 years of age using a multidisciplinary approach that combines psychiatry, psychology and social work services. The staff offers special treatment for sex abuse/incest, depression, hyperactivity and other developmental and behavioral problems. The center provides consultation to area schools, and staff members also conduct in-service training sessions for guidance counselors in the St. Louis public schools. ■

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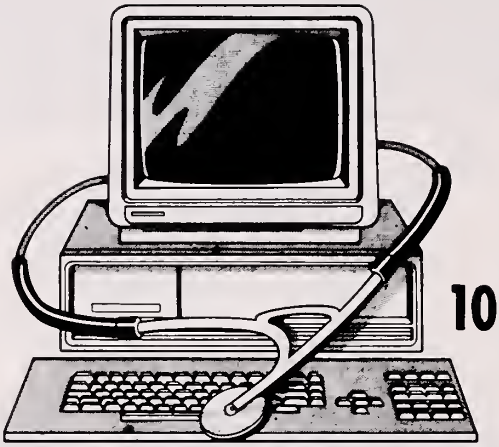

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New Members

- **Alan J. Adamonis, M.D.,** 12530 Postgrove Dr., St. Louis 63141, has become a member of the St. Louis Metropolitan Medical Society. He received his preliminary education at Niagara University and his medical degree at the University of Guadalajara in 1978. He specializes in anesthesia.

- **William A. Birge, D.O.,** 2100 Madison Ave., Granite City, IL 62040, has become a member of the St. Louis Metropolitan Medical Society. He received his preliminary education at Washington University and his osteopathic degree at the College of Osteopathic Medicine and Surgery, Des Moines, Iowa in 1980. He specializes in occupational medicine and emergency medicine.

- **George W. Bo-Linn, M.D.,** division of gastroenterology, St. John's Mercy Medical Center, 615 S. New Ballas Rd., St. Louis 63141, has become a member of the St. Louis Metropolitan Medical Society. He received his preliminary education at Rice University and his medical degree at Baylor in 1977. He specializes in internal medicine and gastroenterology.

- **Robert B. Brigden, M.D.,** 2604 Picher, Joplin 64801, has become a member of the Jasper County Medical Society. He received his preliminary education at University of Southern California and his medical degree at California College of Medicine at Irvine in 1964. He specializes in anesthesiology.

- **Kevin E. Brooks, M.D.,** 10520 E. 40th Terrace, Kansas City 64133, has become a member of the Jackson County Medical Society. He received his preliminary education at Michigan State University and his medical degree at the University of Oklahoma in 1984. He specializes in internal medicine.

- **Scott H. Brown, M.D.,** 4621 Jefferson, Apt. 404S, Kansas City, 64112, has become a member of the Jackson County Medical Society. He received his preliminary education at the University of Arkansas and his medical degree at the University of Arkansas in 1984. He specializes in internal medicine.

- **James D. Cassat, M.D.,** 800 E. 5th St., Suite 104, Washington 63090, has become a member of the Franklin-Gasconade-Warren Medical Society. He received his preliminary education at the University of South Dakota and his medical degree at the University of South Dakota in 1977. He specializes in general surgery.

- **Amy B. Christian, M.D.,** 1123 W. 40th St., #3E, Kansas City 64111, has become a member of the Jackson County Medical Society. She received her preliminary education at Rockhurst College and her medical degree at the University of Illinois in 1984. She specializes in internal medicine.

- **Wendell K. Clarkston, M.D.,** 2925 Buchanan St., Kansas City 64116, has become a member of the Jackson County Medical Society. He received his baccalaureate and his medical degree at the University of Missouri-Kansas City in 1984. He specializes in internal medicine.

- **Clifford M. Costley, M.D.,** 550 Hudson, Aurora 65605, has become a member of the Ozarks Medical Society. He received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1981. He specializes in family practice.

- **Jimmy L. Cox, M.D.,** Suite 3108, Queeny Tower, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. He received his preliminary education at the University of Mississippi and his medical degree at the University of Tennessee in 1967. He specializes in general surgery and thoracic surgery.

- **Patrick M. Coyne, M.D.,** 1245 Graham Rd., Florissant 63031, has become a member of the St. Louis Metropolitan Medical Society. He received his preliminary education at William Jewell College and his medical degree at the University of Missouri-Columbia in 1980. He specializes in obstetrics and gynecology.

- **Deborah K. Duello, M.D.,** Suite C, 110 SW 2nd St., Lee's Summit 64063, has become a member of the Jackson County Medical Society. She received her baccalaureate and her medical degree at the University of Missouri-Kansas City in 1980. She specializes in obstetrics and gynecology.

- **Eduardo L. Garcia-Ferrer, M.D.,** 1221 S. Grand Blvd., St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. He received his preliminary education at St. Louis University and his medical degree at the University of Guadalajara in 1980. He specializes in psychiatry.

- **Fred W. Gaskin, M.D.,** 456 North New Ballas Rd., Creve Coeur 63141, has become a member of the St. Louis Metropolitan Medical Society. He received his preliminary education at the University of Minnesota and his medical degree at the University of Minnesota in 1968. He specializes in psychiatry.

- **Michael R. Handler, M.D.,** 1325 S. Grand Blvd., St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. He received his baccalaureate and his medical degree at the University of Missouri-Kansas City in 1984. He specializes in obstetrics and gynecology.

- **Adolph J. Herath, M.D.,** 603 Maple St., Farmington 63640, has become a member of the Mineral Area Medical Society. He received his preliminary education at Ananda College, Colombo, Ceylon and his medical degree at the University of Ceylon in 1964. He specializes in psychiatry.

- **Fred L. King, D.O.,** Samaritan Memorial Hospital, Macon 63552, has become a member of the Chariton-Macon-Monroe-Randolph Medical Society. He received his preliminary education at Northeast Missouri State University and his osteopathic degree at Kirksville College of Osteopathy in 1961. He specializes in radiology.

- **Barbara G. Kuhlengel, M.D.,** Suite 6007, 621 S. New Ballas, St. Louis 63141, has become a member of the St. Louis Metropolitan Medical Society. She received her preliminary education at the University of Iowa and her medical degree at the University of Iowa in 1980. She specializes in psychiatry.

- **Robert L. Muelleman, M.D.,** 16724 E. 31st Terr., Independence 64055, has become a member of the Jackson County Medical Society. He received his preliminary education at the University of Nebraska and his medical degree at the University of Nebraska in 1984. He specializes in emergency medicine.

■ **Paul W. Nelson, M.D.,** Suite 348, 6700 Troost, Kansas City 64131, has become a member of the Jackson County Medical Society. He received his preliminary education at Dartmouith College and his medical degree at the University of Kansas in 1977. He specializes in general surgery.

■ **Janice B. Schweitzer, M.D.,** 6148 Tennessee Ave., St. Louis 63111, has become a member of the St. Louis Metropolitan Medical Society. She received her baccalaureate and medical degree at the University of Missouri-Kansas City in 1978. She specializes in neurology and pathology.

■ **Rebecca D. Shadowen, M.D.,** 7220 W. 83rd St., Shawnee Mission, Kansas 66204, has become a member of the Jackson County Medical Society. She received her preliminary education at Western Kentucky University and her medical degree at the University of Louisville in 1984. She specializes in internal medicine.

■ **Eric G. Sollars, M.D.,** 1636 NW 67th Terr., Kansas City 64118 has become a member of the Jackson County Medical Society. He received his preliminary education at the University of Missouri-Kansas City and his medical degree at the University of Missouri-Columbia in 1983. He specializes in internal medicine.

■ **John E. Tessier, M.D.,** 1325 South Grand Ave., St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. He received his preliminary education at Marquette University and his medical degree at Creighton University in 1980. He specializes in orthopedic surgery.

■ **Pairat Vibulakaopun, M.D.,** 30 N. Allen, Bonne Terre 63628, has become a member of the Mineral Area Medical Society. He received his preliminary education at the University of Medical Sciences, Thailand and his medical degree at the University of Chiengmai in 1966. He specializes in internal medicine.

■ **George E. Wettach, M.D.,** 1025 S. 14th St., St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. He received his preliminary education at San Jose State College and his medical degree at St. Louis University in 1966. He specializes in internal medicine and cardiology.

■ **Janet G. Wingkun, M.D.,** 1465 S. Grand Blvd., St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. She received her preliminary education at the University of Santo Tomas and her medical degree at the University of Santo Tomas in 1982. She specializes in pediatrics.

■ **Jeffrey M. Wright, M.D.,** 522 N. New Ballas Rd., St. Louis 63141, has become a member of the St. Louis Metropolitan Medical Society. He received his preliminary education at Vanderbilt University and his medical degree at Washington University in 1979. He specializes in internal medicine and allergy.

■ **John T. Yetter, M.D.,** 3908 S. Grand, St. Louis 63118, has become a member of the St. Louis Metropolitan Medical Society. He received his preliminary education at Augsburg College and his medical degree at St. Louis University in 1975. He specializes in family practice.

■ **Chong-Sup Yoo, M.D.,** Farmington State Hospital, Farmington 63640, has become a member of the Mineral Area Medical Society. He received his preliminary education at Severance Union Medical College, Seoul, Korea and his medical degree at Yonsei University in 1960. He specializes in psychiatry.

■ **Barry F. Zeffren, M.D.,** 2120 Madison, Granite City, Ill. 62040, has become a member of the St. Louis Metropolitan Medical Society. Dr. Zeffren is a native of St. Louis. He received his preliminary education at Yeshiva University and his medical degree at St. Louis University in 1979. He specializes in internal medicine, allergy and clinical immunology.

UNIVERSITY OF MISSOURI/ KANSAS CITY

Ann C. Agnew
Ozita Cooper
Uday R. Desai
James C. Mirabile
Todd Wiley

■

In Memoriam

■ **Thomas E. Atkinson, M.D.,** Anchor Hill Ranch #1, Rogersville 65742; graduate of the University of Colorado, 1943; member of Greene County Medical Society; aged 67; died Nov. 28, 1984.

■ **Fred K. Wilson, M.D.,** Winston, Mo 64689; graduate of St. Louis University, 1924; member of Grand River Medical Society; aged 85; died Nov. 28, 1984.

■ **Jon R. Leach, M.D.,** Kahler Clinic, 708 N. Pomme de Terre, Bolivar 65613; graduate of University of Missouri-Columbia, 1965; member of Dallas-Hickory-Polk-Dade Medical Society; aged 45; died Dec. 7, 1984.

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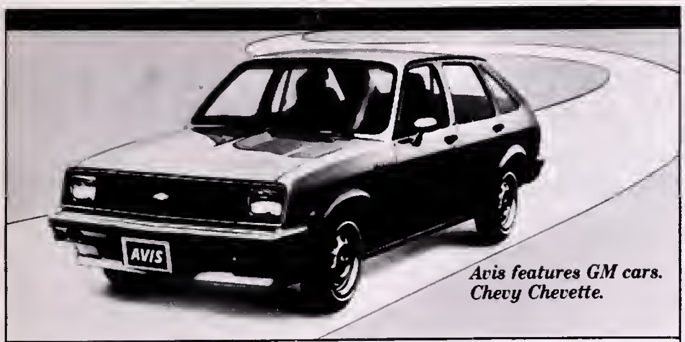
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Physician's Recognition Awards

Sixty-six MSMA members qualified for the MSMA-AMA Physician's Recognition Award during November 1984.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Barton

Alvin R. Cain, *Lamar*

Butler-Wayne-Ripley-Carter

Robert C. Engelhardt, *Poplar Bluff*
Chul Kim, *Poplar Bluff*
Ramasamy Seralathan, *Poplar Bluff*

Boone

Roland P. Ladenson, *Columbia*
Lawrence M. Lampton, *Columbia*
Joseph J. Soha, *Columbia*

Cape Girardeau

Nelson S. Brewer, *Cape Girardeau*
David M. Trantham, *Cape Girardeau*
Jaime Vargas, *Cape Girardeau*

Dunklin

Joe A. Zimmerman, *Kennett*

Greene

Donald E. Menchetti, *Springfield*

Jackson

Philip J. Baker, *Independence*
Stephen A. Brunton, *Kansas City*
Ramon R. Dy-Ragos, *Kansas City*
Donald A. Fakhoury, *Kansas City*
Michael S. Fedotin, *Kansas City*
Melvin L. Glazer, *Kansas City*
Richard W. Gunn, *Kansas City*
William R. Hamaker, *Kansas City*
John D. Hunkeler, *Kansas City*
Michael F. Hynes, *Kansas City*
Warren L. Johnson, *Kansas City*
Patrick F. Leary, *Lawson*
Joseph M. Masucci, *Kansas City*
Harry B. Overesch, *Kansas Ctiy*
Bonita J. Peterson, *Kansas City*
Dorothy D. Reister, *Kansas City*
Charles C. Roberts, *Kansas City*
Gordon D. Stillie, *Kansas City*
Suchint Wathanacharden, *Kansas City*
James W. Willoughby, *Kansas City*

Jasper

Don D. Cho, *Webb City*
Orville A. Mehaffy, *Joplin*

Lafayette-Ray

Thomas B. Cook, *Richmond*

Lake of the Ozarks

Theodore W. Garrison, *Camdenton*

Northwest Missouri

Michael J. Wurm, *Maryville*

Ozarks

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Albert J. Campbell, *Sedalia*
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Richard M. Halford, *St. Louis*
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References:

1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

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2/84

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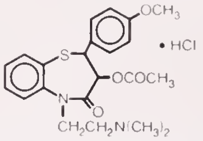

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In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect, cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given, a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted.

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy**—CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

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February

6-8 **Fifth National Conference on CAPD** — Kansas City. Contact: Weldon Webb, Director, CME, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212.

7 **St. Luke's Clinical Conference** — St. Luke's Hospital. Contact: Loretta Giacoletto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

9-10 **Midwinter Vitrectomy Workshop** — Breckenridge Frontenac. Retina Research & Development Foundation, 4949 Barnes Hospital Plaza, East Pavilion, Suite 17413, St. Louis 63110.

9-16 **Traveling Medical Education Course** — Cancun, Mexico. Contact: Alta Bingham, UMKC School of Medicine, Kansas City Southwest Clinical Society, CME Office, 2220 Holmes St., Kansas City 64108. 816-276-1339.

11 **City-Wide Radiology Conference on Digital Radiography** — Contact: Ronald G. Evens, M.D., Director, The Edward Mallinckrodt Institute of Radiology, Washington University School of Medicine, 510 S. Kingshighway, St. Louis 63110. 314-362-7100.

13-14
21-22 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Contact: Jan Johnston, Office of Continuing Medical Education, University of Kansas, Rainbow at Olathe Blvd., Kansas City, KS 66103, 913-588-4488.

22-23 **The Long Weekend** — Alameda Plaza Hotel, Kansas City. Contact: Alta Bingham, CME, UMKC School of Medicine, Kansas City Southwest Clinical Society, 2220 Holmes St., Kansas City 64108. 816-276-1339.

28 **Treating the Aged** — Overland Park, Kan. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

March

1-3 **Organizational Systems:** A Conference on Authority, Role and Task in Working Groups. Contact: Weldon Webb, Director, CME, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

2-3 **Eighth Annual Family Practice Update Session** — Columbia. Contact: Weldon Webb, Director, CME, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212.

2-9 **General Pediatrics and Family Practice Review and Update** — Cancun, Mexico. Contact: Marge Adey, Center for Continuing Education, University of Nebraska Medical Center, 42nd and Dewey Ave., Omaha, NE 68105. 402-559-4152.

4 **Internal Medicine Review** — Monday evenings through May 20 at Washington University. Contact: Loretta Giacoletto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

9 **Industrial Injuries of the Hand** — Washington University. Contact: Loretta Giacoleto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3843.

9 **Second Annual Missouri Conference on Anorexia and Bulmia.** Contact: Weldon Webb, Director, CME, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

11 **City-Wide Radiology Conference on "Interventional Radiology"** — St. Louis University. Contact: Ronald G. Evens, M.D., Director, The Edward Mallinckrodt Institute of Radiology, Washington University School of Medicine, 510 S. Kingshighway, St. Louis 63110. 314-362-7100.

14 **Quarterly Tumor Board Meeting:** Presentation and discussion of eight cases involving cancer. Contact: Janice Gentile, Ellis Fischel State Cancer Center, 115 Business Loop 70 West, Columbia 65201. 314-875-2100, extension 398.

14-15 **Current Management in Critical Care** — Kansas City Alameda Plaza Hotel. Contact: Alta Bingham, CME, UMKC School of Medicine, Kansas City Southwest Clinical Society, 2220 Holmes St., Kansas City 64108. 816-276-1339.

14-16 **Right to Health Care Conference.** Contact: Weldon Webb, Director, CME, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

14-23 **Traveling Medical Education Course** — Maui, Hawaii. Contact: Alta Bingham, CME, UMKC School of Medicine, Kansas City Southwest Clinical Society, 2220 Holmes St., Kansas City 64108. 816-276-1339.

16-23 **Traveling Medical Education Course** — Copper Mountain, Colo. Contact: Alta Bingham, CME, UMKC School of Medicine, Kansas City Southwest Clinical Society, 2220 Holmes St., Kansas City 64108. 816-276-1339.

18-20 **Curable Cancers in Humans** — Washington University. Contact: Loretta Giacoletto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

20-21 **Advanced Cardiac Life Support** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

25-26 **Rehabilitation Medicine:** Office Management of Musculoskeletal Pain Syndrome — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

26 **Neurological Disorders in Clinical Practice** — Joplin. Contact: Joy W. Barnett, CME Coordinator, Freeman Hospital, 1102 West 32nd St., Joplin 64801. 417-623-2801.

27-28 **Eighth Annual Primary Pediatrics for the Primary Physician.** Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

29 **Inflammatory Bowel Disease** — St. Louis University. Contact: Loretta Giacoletto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

April

1-2 **31st Annual Urology Seminar** — Kansas City Westin Crown Center. Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

4-5 **Third Annual Missouri Conference on Alcoholism.** Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

8 **Leroy Sante Lecture** — St. Louis University. Contact: Ronald G. Evens, M.D., Director, The Edward Mallinckrodt Institute of Radiology, Washington University School of Medicine, 510 S. Kingshighway, St. Louis 63110. 314-362-7100.

11-12 **Care of the Aging Patient** — Washington University. Contact: Loretta Giacoletto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

12-13 **American Society for Microbiology, Missouri Branch.** Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

12-13 **Communicating with Children (Hearing and Speech)** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

19-20 **The Long Weekend** — Kansas City Alameda Plaza Hotel. Contact: Alta Bingham, CME, UMKC School of Medicine, Kansas City Southwest Clinical Society, 2220 Holmes St., Kansas City 64108. 816-276-1339.

19-21 **35th Annual Symposium on Anesthesiology** — Westin Crown Center Hotel. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480

24-25 **11th Annual Family Practice Symposium** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

25-26 **12th Annual Postgraduate Course in OB/GYN** — Washington University. Contact: Loretta Giacoletto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis, 63110. 314-454-3853.

26 **29th Annual Symposium on Infectious Disease** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103.

26-27 **Fourth Annual Clinical Conference on Arthritis.** Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

26-27 **Infection Control** — St. Louis. Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

27 **Ophthalmology Conference.** Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

27 **Annual Pathology Symposium** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

30 **Samuel E. Roberts Nutrition Program: Minerals in Human Nutrition:** *Clinical Application* — University of Kansas Medical Center. Contact: Ida Tilden, Academy of Health Professions, 2920 McGee Trafficway, Kansas City 64108. 816-531-4559.

May

1 **What's New in Diabetes Treatment?** University of Kansas. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

2 **Diabetes for Physicians** — University of Kansas. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

9-10 **Technological Advances in Respiratory Care** — University of Kansas. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

10-11 **Cancer Update '85 Spring Symposium: Breast Cancer Update** — Ellis Fischel State Cancer Center. Contact: Janice Gentile, Ellis Fischel State Cancer Center, 115 Business Loop 70 West, Columbia 65201. 314-875-2100.

10-12 **Eighth Annual Missouri Cardiovascular Conference** — Tan-Tar-A, Osage Beach. Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256. ■

Directory of Medical Specialty Organizations

Specialty	President	Next Meeting
Missouri State Allergy Association	Wayne B. Miles, M.D. #6 Jungerman Circle St. Peters 63376	MSMA Annual Convention, Kansas City
Missouri Society of Anesthesiologists	J. O. Alyea, M.D. 2506 Lynnwood Dr. Columbia 65203	MSMA Annual Convention, Kansas City
Missouri Dermatological Society, Inc.	Dallas A. Johnson, M.D. 6700 Troost Ave. Kansas City 64131	MSMA Annual Convention, Kansas City
Missouri Chapter, American College of Emergency Physicians	Edward B. Kinports, Jr., M.D. 3212 Central Kansas City 64108	May 17, 1985 Hilton Plaza Inn Kansas City
Missouri Ear, Nose and Throat Association	Joseph W. West, M.D. 135 W. Adams Kirkwood 63122	Sat., April 13 7:30 a.m. KC Hyatt Hotel
Missouri Academy of Family Physicians	George P. Williams, M.D. 10928 Hillcrest Rd. Kansas City 64134	June 6-9, 1985 Tan-Tar-A Osage Beach
Missouri Society of Internal Medicine	Stephen Hamburger, M.D. TMC Dept. of Medicine 2401 Holmes Kansas City 64108	Sept. 20-22, 1985 Tan-Tar-A Osage Beach
Missouri State Neurosurgical Society	C. Courtney Whitlock, M.D. 1443 N. Robberson Springfield 65802	MSMA Annual Convention, Kansas City
Missouri OB/GYN ACOG	James G. Blythe, M.D. 621 S. New Ballas Rd. Suite 2009 St. Louis 63141	MSMA Annual Convention, Kansas City
Missouri Ophthalmological Society	Robert F. Tobin, M.D. 1407 Village Dr. St. Joseph 65201	MSMA Annual Convention, Kansas City
Missouri State Orthopaedic Association	Marion Wolf, M.D. 1211 S. Glenstone Springfield 65804	Sept. 19-22, 1985 University Plaza Hotel Springfield
Missouri Society of Pathologists	David D. Zoller, M.D. St. Mary's Hospital No. 1 Memorial Dr. Kansas City 64108	MSMA Annual Convention, Kansas City
Missouri Chapter, American Academy of Pediatrics	David L. Simon, M.D. 9705 Watson Rd. St. Louis 63126	May 1985 Lake of the Ozarks
Central Missouri Psychiatric Society	A. E. Daniel, M.D. Mid-Missouri Mental Health Cnt. #3 Hospital Dr. Columbia 65201	Feb. 2, 1985 6:30 p.m. Country Club Columbia

Central Society of Physical Medicine & Rehabilitation	Franz U. Steinberg, M.D. 216 S. Kingshighway St. Louis 63110	MSMA Annual Convention, Kansas City
Missouri Radiological Society	Fred F. Roberts, M.D. Dept. of Radiology St. Joseph's Hospital Kansas City 64114	MSMA Annual Convention, Kansas City
Missouri Chapter of American College of Surgeons	Edwin E. MacGee, M.D. 4440 Broadway Kansas City 64111	June 14-16, 1985 Tan-Tar-A Osage Beach
Missouri State Surgical Society	Melvin C. Kasten, M.D. #10 Doctors Park Cape Girardeau 63701	MSMA Annual Convention, Kansas City
Missouri Thoracic Society	Kevin McCusker, M.D. 7129 Lindell St. Louis 63130	Sept., 1985 Tan-Tar-A Osage Beach
Missouri Society of Urologists	Jay L. Milne, M.D. 1900 S. National Suite 2700 Springfield 65804	MSMA Annual Convention, Kansas City

Any specialty group not listed above is invited to send the name of the group's president and the time, date and place of the group's next meeting to: "Medical Specialty Listing," MISSOURI MEDICINE, *P.O. Box 1028, Jefferson City, MO 65102.*

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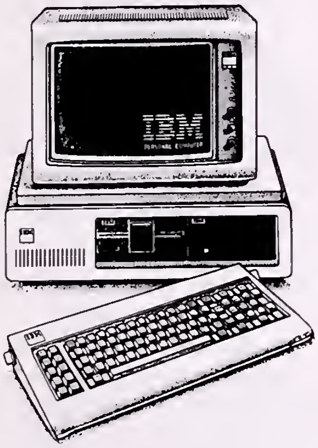

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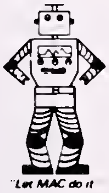

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HOTEL SWEET HOTEL

Robert E. Bregant, M.D.

It was a Thursday afternoon in 1979 and Bob Bregant, a Jefferson City internist, had the day off. At the last minute, he decided to accompany his wife, Barbara, to visit the small community of Bonnots Mill, 20 miles east of Jefferson City. Barbara, along with a few close friends, often traveled to small rural towns, enjoying the drive, the history and the antiques along the way.

In Bonnots Mill, they happened upon an old hotel for sale, the Dauphine, built in the late 1800s. The Bregants were taken in by its charm and history. Dr. Bregant, on impulse, made an offer considerably lower than the asking price.

The next day, the Bregants owned a hotel.

Five years later, the Dauphine is second home to the Bregants. After receiving a place for the hotel on the National Register of Historic Places, the Bregants worked hard at restoring the building to its original glory.

Today, the Bregants share their hotel as a weekend inn to clubs and other organizations. In addition, for the past several years, Dr. Bregant has contributed a weekend at the hotel for eight couples to the MSMA Auxiliary for auctioning at their annual fundraiser.

Several of Dr. Bregant's patients and peers, knowing of his efforts to restore the hotel to its original character, have given him antiques, books and other valuables to use and display in the Dauphine.

The hotel has eight bedrooms upstairs and five rooms downstairs. There are also 2½ baths (that, of course, does not include the three-stall flush privy in the backyard).

Like most physicians, Dr. Bregant works hard to keep up as medicine pushes into the future. But as the owner of the Dauphine Hotel, Bob Bregant helps the Dauphine maintain its place in history. ■

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Missouri Medicine

Journal of the Missouri State Medical Association

March 1985

V.82, no3

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Missouri Medicine

Vol. 82, No. 3 *Journal of the Missouri State Medical Association* March 1985

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Fulton 65251

Missouri Medicine (ISSN 0026-6620) is published monthly by the Missouri State Medical Association, P.O. Box 1028, 113 Madison St., Jefferson City, MO 65102.

Subscription rates: $15 per year. Interns and Residents, $7.50 per year.

Second class postage paid at Jefferson City, Missouri and at additional mailing offices.

Postmaster: Send address changes to Missouri State Medical Association, c/o Membership Department, P.O. Box 1028, Jefferson City, MO 65102.

The articles published in *Missouri Medicine* represent the opinions of the authors, and do not necessarily reflect the official policy of the Missouri State Medical Association.

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MHFRC takes action on major purchases and MR scanners

The Missouri Health Facilities Review Committee (MHFRC) took two actions at its January 7 meeting aimed at allowing the State Health Planning and Development Agency time to develop review criteria for magnetic resonance imagers (MR scanners).

In its first action, the MHFRC voted unanimously to freeze the Certificate of Need review process for all MR scanners applications from January 1 to April 1, 1985.

During this 90-day period, the applications which are currently under review will have their review cycles stopped, and no new applications will be accepted.

The MHFRC also voted to adopt an opinion from the Attorney General which deems as reviewable under Missouri Certificate of Need law any purchase of major medical equipment in excess of the minimum threshold ($400,000), irrespective of placement or person (individual, group or hospital) purchasing the equipment. Thus, major medical equipment, such as magnetic resonance imagers, are reviewable regardless of service location or type of ownership. ■

New rates and better coverage for MSMA members

The Executive Committee of Fred S. James & Company of Missouri, Inc., has announced a new, improved program of Group Accident Death and Dismemberment Insurance. The underwriter of the program will be changed from the Insurance Company of North America to the Commercial Insurance Company of Newark, New Jersey, effective April 1, 1985.

In addition to lower rates, the new plan allows an increase in the maximum benefit from $150,000 to $200,000. The dismemberment schedule is broadened to include loss of speech or hearing, and loss of thumb and index finger. The new plan still includes the permanent total disability benefit.

The family plan has also been improved to allow higher benefits for your spouse and dependent children. In addition, a special premium is provided for those members who have eligible children, but no spouse.

This new program offers 24-hour, worldwide coverage at one of the most competitive rates. For more information on this plan, contact Fred S. James & Company of Missouri, Inc., 2420 Pershing Road, Suite 220, Kansas City, MO 64108, 816-842-6670. Or, in St. Louis, write 231 South Bemiston, St. Louis, MO 63105, or call 314-863-7777. ■

MSMA to sponsor workshops on how to establish yourself in medical practice

The Missouri State Medical Association is sponsoring two workshops on "Establishing Yourself in Medical Practice." The day and one-half workshops will be held April 30-May 1 at the Kansas City Hilton Plaza Inn and May 2-3 at the St. Louis Radisson Hotel.

The workshops are designed to help physicians entering medical practice avoid costly mistakes. The programs offer advice on how to recruit and select personnel, how to handle patient flow, how to finance a practice and lease office space, and how to organize medical records. In addition, the workshops discuss financial management, practice-building techniques, and economic and legal aspects of practice.

Conomikes Associates, Inc., a nationally-known productivity consulting firm for health professionals, will be conducting the workshops.

The registration fee is $100 for MSMA members, and $125 for non-members. Enrollment for each workshop is limited to 30 residents.

For more information and reservations, call or write MSMA. ■

MSMA Council proposes "unified" membership plan

The MSMA Council, at its February 2 meeting in Columbia, voted to submit a resolution to the MSMA House of Delegates seeking "unified" membership. The resolution would require Missouri physicians desiring to join local medical societies to join also the MSMA and the AMA. The resolution will be heard in reference committee during the MSMA Annual Convention, April 11-14 at the Kansas City Hyatt Regency, and will be voted upon by the House of Delegates.

During the Executive Secretary's report, Royal Cooper noted that 110 hospital administrators and staff and 35 physicians attended the Missouri Hospital Association/MSMA seminar on Hospital Medical Staff Relations.

Mr. Cooper noted Drs. Sammons' and Todd's national television discussion on professional liability and announced that the MSMA has ordered the 37-minute tape of Dr. Sammons discussing this on cable network. The tape is available to local societies for meetings.

The MSMA has recently introduced a pension plan service as a membership benefit. E. F. Hutton is the administrator of the plan. Mr. Cooper reported a good response to the initial solicitation mailing.

AMA report

Hubert Ritter, M.D., AMA Trustee, expressed his appreciation to the Council for its support of his candidacy for AMA president-elect in 1986.

Dr. Ritter announced that it is estimated that 26 of every 100 physicians will have a malpractice suit filed against him this year.

Although AMA membership was at a record high last year, Dr. Ritter encouraged support of the resolution requiring unified membership. The AMA cannot represent all physicians, Dr. Ritter said, when less than 50 percent of physicians nationwide are AMA members.

Dr. Ritter also noted that the current fee freeze probably would be extended.

Editor

Dr. Walter German, MSMA president-elect, reported that Dr. Burkey, current editor of *Missouri Medicine*, has agreed to serve another year if the Council so desires. On motion, duly seconded, the Council commended Dr. Burkey for his past fine performance as editor and appointed him to serve for the 1985-86 year.

PAC and PIP

Dr. Wiles strongly urged all Officers and Councilors to become sustaining members of PAC. As chairman of the Key Contact Committee, Dr. Wiles reported that MSMA is implementing a program known as the "Physician Involvement Program" (PIP). The program is a mechanism for physician involvement in the law-making process. Initially, a mailing will be made to the "Key Contact" physicians and to the Council and Officers of the Association explaining this program and encouraging their participation. The program is designed to have physicians come to Jefferson City one day each week, be briefed at the MSMA office, then go to the Capitol to speak to legislators and observe the legislative process.

Citizenship and Community Service Award

After reviewing material on seven very deserving candidates for the 1985 MSMA Award for Citizenship and Community Service, on motion, duly seconded, the Council agreed that this award should be presented to Andrew J. Signorelli, M.D., St. Louis. The award will be presented at the 127th MSMA Annual Convention.

PRO

Dr. T. J. Cooper, a member of the PRO Board of Trustees, asked for MSMA assistance with an apparent problem that is being encountered by PRO. Under PRO law, patients requiring diagnostic work-ups can no longer be admitted as inpatients. This has created a financial hardship for those patients requiring an overnight stay in the city in which the hospital is located. Dr. Cooper suggested that MSMA seek appropriate legislative assistance to aid these individuals. Discussion followed and it was suggested that the PRO make a more complete study of the issue. Council assistance will be provided if desired.

Committee on Legislative Affairs

Mr. C. C. Swarens, MSMA assistant executive secretary, reported that the MSMA staff is currently following 89 Senate bills and 149 House bills dealing with medicine and health. He also brought the Council up to date on actions of the Committee on Legislative Affairs taken the previous day. These included opposing the lay midwife bill (SB 224); supporting the comparative negligence bill (HB 304) and asking for Council approval of these two actions. On motion, duly seconded the Council approved the Committee's report.

Committee on the Impaired Physician

Dr. William Stryker, chairman of the MSMA Committee on the Impaired Physician, reported that the committee had met with representatives from the Missouri

Pharmaceutical Association, the Missouri Dental Association, the Missouri Association of Osteopathic Physicians and Surgeons, and the Missouri Nurses' Association. Each described their association's activity in developing an Impaired Professional Program.

It was felt that it would be advantageous to all concerned to enter into a cooperative arrangement of sharing a medical director for the Impaired Professional Program. Levels of funding were discussed and it was felt that it would be necessary to involve members of the other associations in this sharing arrangement.

Potential liability to the members of the MSMA Committee on the Impaired Physicians was discussed.

Dr. Stryker indicated that they also have contacted MOMEDICO and Medical Defense Associates (MDA) regarding their possible financial participation in the impaired physician program. MOMEDICO is continuing dialogue with the Committee and MDA has invited Dr. Stryker to make a presentation to their Executive Council. He further reported that St. Louis University is implementing an impaired professional program. The committee is encouraging hospitals to implement impaired physician or impaired professional programs.

Committee to Negotiate with Third Parties and Hospitals

Dr. Singleton presented the report of the Committee to Negotiate with Third Parties and Hospitals.

At the committee meeting in January, it was pointed out that a cadre of 20-25 trained negotiators located throughout the state is needed to assist in negotiating the anticipated increase of problems that will occur in 1985 and in the future.

On motion, duly seconded, the Committee adopted a motion to submit a resolution to the 1985 MSMA House of Delegates to accomplish this objective.

The Committee discussed the AMA Monograph "Bylaws — A Guide for Hospital Medical Staffs." This monograph carefully explains the functions, the operational framework and the legal aspects of a hospital medical staff.

On motion, duly seconded, the Committee recommended that a resolution be submitted to the MSMA House of Delegates urging all hospital medical staffs to obtain this monograph and to remind MSMA members that the medical staff may be regarded as a self-governing entity that is largely autonomous with respect to both administrative matters and clinical decision-making. MSMA members should be urged to obtain separate legal counsel for their hospital medical staff and not to depend on the hospital's counsel for legal assistance on matters concerning bylaws, rules and regulations.

Commission on Medical Economics

Dr. Corry presented the report of the Commission on Medical Economics, Third Party Medicine, and Governmental Relations. Dr. Colosi recommended, and it was adopted, that the 1986 Committee report examine HMOs in depth, and only basic informational data be offered for the other alternative systems.

The Commission also agreed to request that the MSMA encourage spokesmen from the Governor's Task Force on Health Care Costs to appear before legislative committees in support of pending legislation dealing with medical malpractice and peer review confidentiality.

Commission on Medical-Legal Affairs

Dr. David Wilkson, Councilor Advisor for the Commission, presented the report of the Commission on Medical-Legal Affairs. The Commission recommended that other organizations be considered and invited to participate as future needs warrant.

The budget report emphasized that in-kind support could come from all member organizations at this time. The Commission recommended that each member organization furnish in-kind support and bear their fair share of cost on a project-by-project basis.

Fifteen tort reform proposals were discussed. Additionally, other problems were discussed, but a general consensus was to concentrate efforts at this time on structured awards, collateral source rule change, statute of limitations on product and other professional liability, and to attempt to eliminate frivolous suits.

After discussion of all the reports concerning tort reform, the following recommendation was made. "The Commission recommends that the Coalition request the Governor and/or the officials of the Missouri General Assembly to establish task forces or select committees to study the product and professional liability problems in Missouri and after hearings recommend tort reform solutions to the Missouri Legislature."

The Commission also discussed possible countersuits by members. The Commission studied the internal guidelines established in 1978 and other policy and procedures that can be used to assist members. Members that have successfully defended themselves in a professional liability suit, meeting certain criteria, can obtain assistance in bringing a countersuit against a plaintiff and the plaintiff's attorney.

The Commission recommended that MSMA publicize the countersuit assistance available.

Dr. German asked the Councilors for suggestions for physicians to serve on Commissions and Committees for the coming year. He further stated that he would be calling on Councilors, Vice Councilors and other members during his tenure in office and asked the Councilors to see that the presidents of their societies will be available and present on Saturday, April 13 for his installation as MSMA president. ■

Workers' Comp program set

There has been considerable talk and concern about the rising cost of injury in the workplace. Statistics show that the greatest rise has been in the costly awards of permanent and partial disability, which are double the cost of medical care and rehabilitation combined.

MSMA members will have the opportunity to discuss these problems and possible solutions with Richard Rousselot, Director of Workers' Compensation Division in Missouri, during the MSMA Annual Convention in Kansas City.

Mr. Rousselot and other officials will meet with MSMA members immediately following the opening ceremony and keynote speech, Friday, April 12, at 11 a.m. in the Van Horn B Room of the Kansas City Hyatt Regency Hotel. All MSMA members are encouraged to attend. ■

MSMA membership continues to grow

The total membership of the Missouri State Medical Association grew to 6,631 in 1984, including 736 dues-exempt members. This is a net increase of 69 new members over the 1983 total. Sixty-nine percent of the 1984 dues-paying membership also paid AMA dues. ■

Corporate involvement in medical care to be discussed at MSMA convention

Stanley Wohl, M.D., author of *"The Medical Industrial Complex"* will be the featured speaker at the General Session of the Annual Convention of the Missouri State Medical Association, Friday, April 12, at 10:30 a.m.

The 127th MSMA Annual Convention will be held April 11-14 at the Kansas City Hyatt Regency Hotel.

Dr. Wohl's presentation, "The Increasing Corporate Involvement in Medical Care," will be followed by a panel discussion. The members of the panel will be: Ronald A. Youmans, M.D., former MSMA president and a private practice physician in Kansas City; Richard H. Fallon, M.D., medical director of Maxicare, a for-profit HMO; and Daniel H. Anderson, chairman of the Missouri Hospital Association and administrator of Baptist Medical Center, a private, not-for-profit hospital.

Dr. Wohl was educated in medicine and trained in neurosurgery at McGill University, The University of Pennsylvania, and The Montreal Neurological Institute.

For the past twenty years he has been a student of medical economics, with a special interest in listed corporations that serve the health care field. His detailed library and data base on the subject are probably the most extensive in the country. He is a frequent speaker on the topic before professional medical and corporate groups.

Dr. Wohl is on the active staff of the Stanford University Medical Center, the Managing Partner of Heritage Medical Group, and President of Informed Systems, an independent medical economics research organization centered in San Francisco. He serves as the physician representative on the San Mateo County Board of Supervisors Emergency Care Committee.

Following the panel discussion, James E. Davis, M.D., speaker of the AMA House of Delegates, will address the convention on "Current AMA Activities."

Dr. Davis, Durham, N.C., completed his undergraduate work at the University of North Carolina in 1940. He received his medical degree from the University of Pennsylvania Medical School in 1943 and completed his internship and residency at New York Hospital-Cornell University Medical Center. Dr. Davis is professor of surgery at the University of North Carolina School of Medicine, associate professor of clinical surgery at Duke University School of Medicine, and former Chairman of the Department of Surgery at the Durham General Hospital. He is a Diplomate of the American Board of Surgery and a Fellow of the American College of Surgeons. ■

FMG rate slows, still high in areas

The percentage of foreign medical graduates in U. S. residency training programs has declined steadily since 1980 but still exceeds 25% in some states, according to the AMA's 1984-1985 directory of residency training programs. Nationwide, the directory reported that 18.4% of residents last year were FMGs, somewhat lower than the 24.5% in 1977 and 19.8% in 1980. U. S. citizen FMGs in residency programs increased from 5,838, 44.2% of all FMGs in training, in 1981 to 6,990, or 52.9%, in 1983. ■

Impaired Physician Program needs more volunteers

The MSMA Committee on the Impaired Physician is looking for physicians who are recovering from alcohol and other drug dependence and who would be willing to assist the Commitee in intervention and in assisting other physicians in early recovery. If you would like to volunteer, or want to receive more information, contact Ron Ellison at MSMA Office, or call or write William I. Stryker, M.D., Committee Chairman, 150 N. Meramec, St. Louis, MO 63105, 314-725-0060. ■

Your support is needed for PAC

by John Martin, M.D.
MMPAC Chairman

Only four short months ago, voters went to the polls to elect new legislators to the Missouri General Assembly and to Congress. These newly-elected officials now possess the power, at least in large part, to determine how you will practice medicine in the years to come.

This is why we as physicians, through our county societies and political action committees, must be prepared to support candidates who understand and respect the critical role of the individual physician in meeting the health needs of the community.

Today, only a small portion of our MSMA members belong to MMPAC (Missouri Medical Political Action Committee) and to AMPAC (American Medical Political Action Committee). To be stronger, more effective, we must first be larger, more involved. We must be informed on candidates and issues, be prepared to raise funds, and actively participate in the campaigns we support.

Doctor, isn't it time you join the effort to keep medicine free from undue federal and state regulation? And isn't it time you made a commitment to join the fight for the best possible health care delivery system in Missouri?

Write today and join. MMPAC/AMPAC, P.O. Box 1402, Jefferson City, MO 65101. Regular one year membership is $40. Sustaining membership is $100 annually. ■

It's time again to raise funds for med students

The Seventh Annual Benefit Auction for the Missouri State Medical Foundation (MSMF) and the American Medical Association Education and Research Fund (AMA-ERF) will be held at 6 p.m., Thurs., April 11, at the Kansas City Hyatt Regency Hotal. The event is held in conjunction with the 127th Annual Convention of the Missouri State Medical Association.

The MSMF proceeds from the auction go towards providing low-interest loans to qualified Missouri medical students. Last year, the auction, which is co-sponsored by the MSMA and the Auxiliary, raised more than $10,000. This year's goal is still higher.

Items to be auctioned are donated by MSMA and Auxiliary members. Individuals who bid successfully are privileged to name the fund recipient of their contributions.

Mrs. Frank Werner, Liberty, is the chairman of this year's auction. If you have already selected an item to donate, please write to her at RR1, Box 479B, Liberty, MO 64068, or call her at 816-781-3149. The Auxiliary is asking members of both organizations to contribute items such as antiques, paintings, objets d'art, quilts, art and craft items. Members are encouraged to use their own imagination in selecting articles they believe will add to the attractiveness of the auction.

Please bring your items to be auctioned to the Atlanta Room at the Hyatt Regency Hotel between 9 a.m. and 3 p.m., Thurs., April 11.

Receipts will be issued for all items donated and contributors are asked to attach a description of their items for the auctioneers.

Mrs. Richard Bowles, president of the Auxiliary, urges all members to attend this important event that raises much-needed funds and also provides a special convention opportunity for fun and friendship. ■

Workshops offered to help your office run smoothly

A series of five workshops on "Medical Office Management" is being sponsored by the Missouri State Medical Association and Conomikes Associates, Inc.

The workshops, designed specifically for medical office personnel, will address: Computers in Medical Practice, Patient Flow Management, 1985 Financial Management, Personnel Management, and Personnel Problem Solving.

The Sheraton St. Louis Convention Plaza is the site of the May 20-24 workshops. A different workshop is held each day from 9 a.m. until 5 p.m. You may attend any number you wish. Tuition is $125 per workshop or $550 for all five workshops.

For more information and registration forms, contact the Missouri State Medical Association, P. O. Box 1028, Jefferson City, MO 65102, 314-636-5151. ■

State of the Art Protection

State of the art. Such a bold statement is usually descriptive of medical technology, not malpractice insurance. But the level of achievement Insurance Corporation of America has maintained since its founding nine years ago can be depicted in no other way. Just as the qualities embraced by this assertion—strength, expertise, responsibility—are necessary elements of your daily practice, they are essential to our corporate philosophy.

Our highly selective approach to underwriting, conservative investment philosophy and prudent operating policies provide a strong financial base, which solidifies our ability to protect your practice. Further, as a single-line carrier, our commitment to you is to provide a quality product and service for your special needs.

Insurance industry submission to non-meritorious claims is a major reason why malpractice litigation is a booming business and why physicians are paying the price. ICA counters in this volatile market by acting rather than reacting with an aggressive defense posture. And our strong, professional claims defense team is the cornerstone of our responsibility to you.

State of the art protection — a bold step forward in professional liability insurance.

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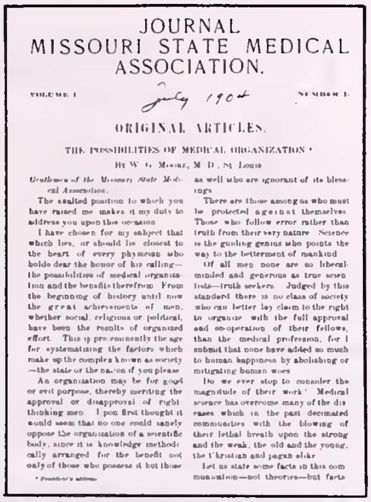
INSURANCE
CORPORATION
OF AMERICA
Houston, Texas

EDITOR'S DESK

by Jordan W. Burkey, M.D.

Missourians are often accused of being the last to change anything, so, perhaps, some adaptation is in order.

It's a new look for an old face


JOURNAL
MISSOURI STATE MEDICAL
ASSOCIATION.

July 1904

ORIGINAL ARTICLES.

THE POSSIBILITIES OF MEDICAL ORGANIZATION.*

By W. G. Moore, M. D., St. Louis

Seventy-Sixth Annual Meeting, Kansas City, May 1, 2, 3, 4
House of Delegates Meets May 1

THE JOURNAL
OF THE
Missouri State Medical Association

FEBRUARY, 1933

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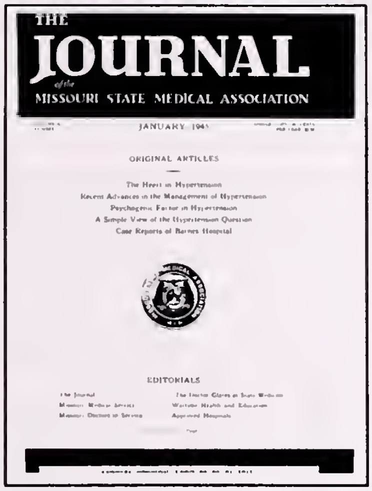
THE
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Psychogenic Factor in Hypertension
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The philosophical statement that "you can't tell a book by its cover" has its adherents, but others believe that it just isn't so. Beginning with the January issue this year, this publication has a new cover, along with a new managing editor. Many journals, like *JAMA*, do change their faces from time to time, while other cover sheets, like the *New England Journal of Medicine*, seem to go on forever.

Missourians are often accused of being the last people to change anything ("show me!"), so, perhaps, some adaptation is in order. While *Missouri Medicine* will continue to feature articles from physicians both out-state and in academia, more emphasis on socio-economic and related medical subjects is planned. With a monthly circulation of more than 7,000 copies, *Missouri Medicine* ranks 14th nationally among state medical journals in number of issues circulated. We hope its quality also will continue to rank high, and do proud to its new face. ■

Letters to the Editor

More info needed on new members

Dear Editor:

I enjoy receiving my copy of *Missouri Medicine* and especially am interested in reading the section on new members that appears in the back of the journal each month. This helps me keep abreast of the specialists entering practice throughout the state.

I feel that it would be very helpful to list the institution where the physician obtains his specialty training. At present, his college training and his medical school are listed and the specialty that he enters. Yet, I have no idea of the physician's specific background in his field.

Peter C. Boylan, M.D.
Kansas City

Beginning with this issue, we will list, when available, the institutions where new members completed their residency training. — Ed.

A little applause

Dear Editor:

What a wonderful, refreshing change in the January 1985 cover of MISSOURI MEDICINE.

I am sure that I will be one of many congratulating you on your change to an artwork-type cover and, secondly, for the tasteful changes on the inside pages. Congratulations, again!

Gordon C. Sauer, M.D.
Kansas City

Dear Gentlemen:

Congratulations to the Editorial Staff of MISSOURI MEDICINE on the new format! As I picked up the January issue the cover was beautiful and the internal structure much more pleasing to the eye.

You are obviously off to a good start!

G. David Dixon, M.D.
Kansas City

Dear Editor:

I just received the "new format" of MISSOURI MEDICINE. It is excellent! Congratulations!

John P. Roberts, M.D.
St. Louis

A Department of Health for Missouri

Dear Dr. Burkey:

The Missouri State Medical Association during the past several years has strongly supported the creation of a separate Department of Health. We believe that a single health agency would offer a more efficient operation, while at the same time be more responsive to the General Assembly and the citizens of Missouri.

Senator Harry Wiggins has introduced a bill (L. R. No. 171) which provides for the creation of a State Department of Health. Strong bipartisan support for this bill has developed in the Missouri General Assembly.

About ten years ago, the consolidation of so-called human service elements of state government into superagencies was extremely popular. It was promoted in the literature not only for possible dubious cost savings but mainly for the hypothetical advantages gained by more closely relating what seemed allied elements of government. Many states considered it, and some adopted it. In an effort to consolidate what was admittedly a rambling state government, Missouri, along with others such as Florida, also consolidated health services with other social programs. The glow has now faded from that original aspiration as state after state has discovered that the basis for that consolidation was a false one. Only fifteen states now remain with such omnibus departments.

One problem is the department-level competition for public health dollars vs. social service dollars: Social service program budgets generally far exceed the funding required to conduct public health programs, even though the leverage provided by public health funds typically affects and protects many more people — the entire population in some cases. Therefore, the welfare-related issues, including budget issues, dominate the attention and energy of an omnibus department. The effects of this can be felt particularly during the budget process where the savings or cuts required in the welfare budget may exceed the entire public health (protection) budget of the state. Historically, under these conditions, protection and prevention funding priorities have not fared well. Examples of this would be inadequate funding for prenatal care, newborn screenings for various diseases, etc.

This skewing is even more likely because top staff policymakers at the omnibus department level typically know little about public health nor the serious impact and leverage their decisions have on key population protection matters.

Eventually, another organizational problem develops associated with such organizationally buried state health agencies; health policy and health-related programs become fragmented and diffused throughout state government. The final visible effect is that health-related programs end up in several other state agencies. They are uncoordinated and

(Continued on page 161)

Special Article

PRO Review of Hospital Admissions of Medicare Patients

by Mohammad N. Akhter, M.D.

Executive vice president and medical director of the Missouri Patient Care Review Foundation.

The Missouri Patient Care Review Foundation, a physician-sponsored, not-for-profit organization, has been designated as the utilization and quality control peer review organization (PRO) for the State of Missouri. Since August 1 of 1984, the Foundation has been carrying out the following functions:

1. Review of reasonableness, necessity, and appropriateness of hospital admissions.
2. Validation of diagnosis and procedural information that determines Medicare reimbursement.
3. Review of completeness, adequacy, and quality of care provided.
4. Review of the necessity and appropriateness of the care for which payment is sought on an outlier basis.

Selection of Cases for Review

Cases for review are selected from the data provided by the Fiscal Intermediary, Blue Cross, for all the claims paid during a particular month. In other words, it is a retrospective review. Patients have already been seen and Blue Cross has already paid the hospitals. A random sample of five percent of cases by each hospital is selected. In addition , for the specific DRGs in Table 1 and certain other diagnoses and procedures, a 100 percent sample is selected.

Review sheets are then printed by computer for each hospital with the complete identification of each of the patients. These review sheets are then mailed to five area offices. Upon receipt of these review sheets, each area office staff contacts the individual hospital to schedule the date(s) for review and notifies the hospitals as to how many coordinators will be present and the number of charts they will be reviewing. This is done approximately one week in advance of the proposed site visit. The hospitals then provide the records within the designated time frame as well as provide adequate working space once the review area personnel are on site.

To facilitate review, the review area staff frequently forwards a copy of the worksheets ahead of time in order that the charts may be pulled and matched to the worksheets prior to the scheduled visit. Before commencing with the actual review, the review coordinators (usually RNs or medical records technicians):

1. Validate all identifying information on the review worksheet with that in the medical records; i.e., name, medical record number, HIC number, birthdate, admission and discharge dates, and disposition.
2. Also, they verify that the attending physician attestation, with signature, is present and the chart is complete. Failure to meet these conditions is grounds for denial of the claim.

In some instances, due to the small number of Medicare patients, geographic distance, or other circumstances, it is cost effective to conduct the review at the review area office. In these situations, copies of the medical records are requested from the hospital. This option is used judiciously, as the expense involved to the hospital could become a point of contention. Also, the

> "HCFA is serious about reducing health care costs, and we believe the review program is going to be with us for a number of years."

Table 1

DIAGNOSIS-RELATED GROUPS (DRGs) RETROSPECTIVE REVIEW

The following categories of Diagnosis-Related Groups (DRGs) will be reviewed retrospectively on a 100% basis. Review is to determine necessity for admission, appropriateness and quality of care delivered.

039	Lens procedures
157	Anal procedures
161	Inguinal and femoral hernia procedures, hernia procedures (unilateral only)
182	Esophagitis, gastroenteritis and miscellaneous digestive disorders
183	Esophagitis, gastroenteritis and miscellaneous digestive disorders, age 18-60 w/o c.c.
225	Foot procedures
410	Chemotherapy

storage of medical records at the area office creates additional security concerns.

All reviews are completed within thirty days from the receipt of the review worksheets at the review area. All cases are reviewed for the following:

1. medical necessity of admission
2. services delivered in the most appropriate setting
3. DRG validation
4. quality of care

Review coordinators review the charts based upon the established Foundation criteria, which are applied uniformly all across the state. Charts not meeting the established criteria are identified, and copies of those charts are requested and are brought to the office for review by the medical director or medical consultants. Essentially, review coordinators utilizing established criteria perform the initial screening to identify questionable charts for a physician's review.

Exit Conference

At the end of the review, an exit conference is conducted at the hospital. This usually involves the director of medical records and some representative of the hospital administration, at the discretion of the hospital. The review supervisor provides general briefing and addresses problems identified during the review and recommendations for improvement. The exit conference is general in nature and does not deal with a specific case; however, information is provided to the hospitals regarding the questionable cases.

Physician Review

Each of the five review areas has a designated medical director who is responsible for either doing the review himself or for selecting physician consultants with the necessary specialty or subspecialty training for individual case review.

The area medical director and/or his designated medical consultant performs the review on those cases identified by review coordinators. The physician reviewer based upon his medical knowledge and experience, makes the determination whether the admission was appropriate and medically necessary. If he feels the admission was medically necessary and appropriate, the case is approved.

In those cases that are questionable, a pending denial letter is sent to the attending physician, with a copy to the hospital, asking for additional information. Any supplementary clarifying information received from the attending physician is reviewed by the medical director or reviewing consultant physician. In the event the information results in the decision that the denial of payment is not justified, a letter signed by the medical director is sent to the attending physician. In cases where no supplementary information is received within seven days, or such information is inadequate to justify overturning the initial determination, a denial letter is sent to the physician, with a copy to the hospital, Fiscal Intermediary, and the patient.

Reconsiderations

The basis for reconsideration of

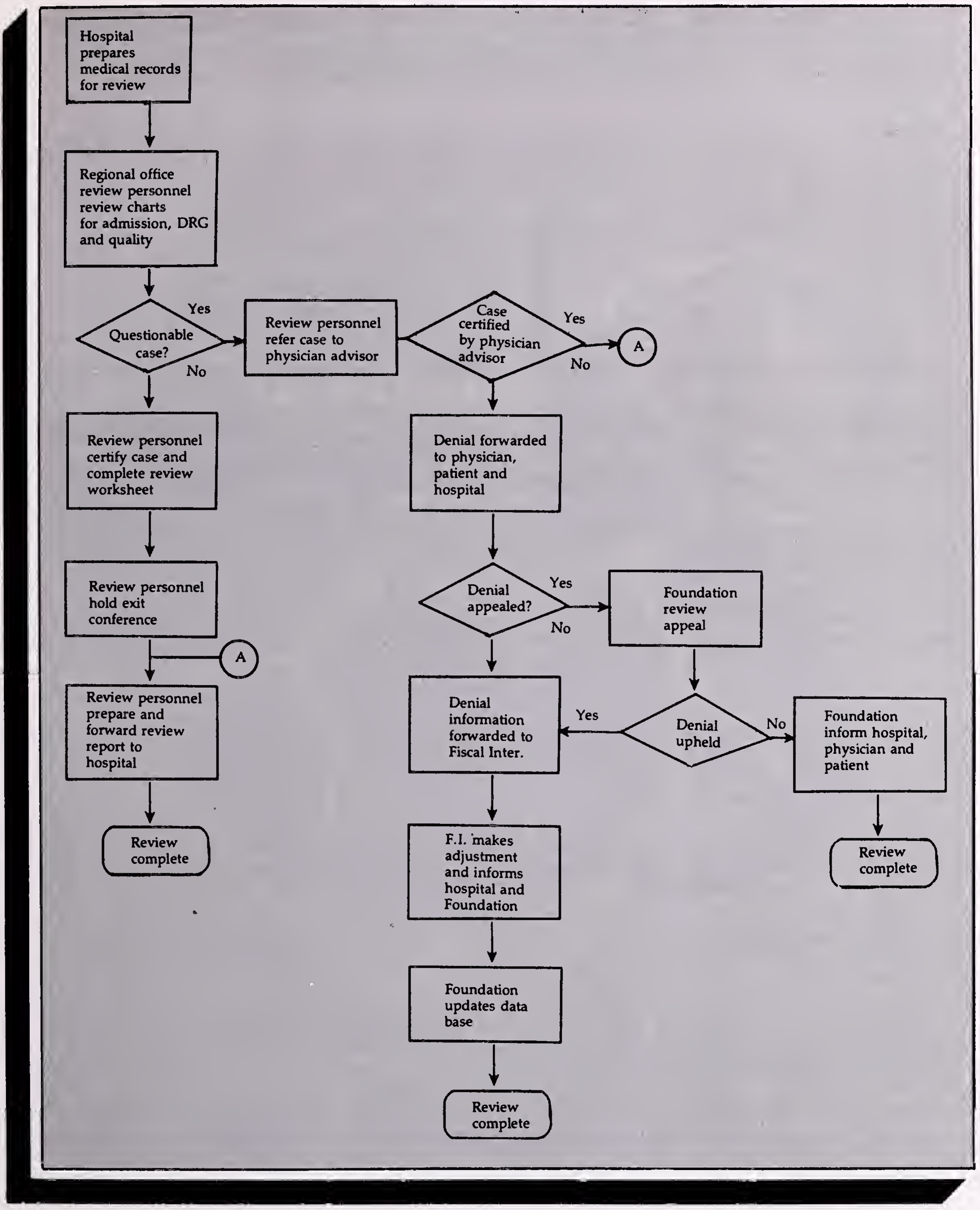
Hospital prepares medical records for review
Regional office review personnel review charts for admission, DRG and quality
Questionable case?
Yes
No
Review personnel refer case to physician advisor
Case certified by physician advisor
Yes
No
A
Review personnel certify case and complete review worksheet
Review personnel hold exit conference
A
Review personnel prepare and forward review report to hospital
Review complete
Denial forwarded to physician, patient and hospital
Denial appealed?
Yes
No
Foundation review appeal
Denial upheld
Yes
No
Denial information forwarded to Fiscal Inter.
Foundation inform hospital, physician and patient
Review complete
F.I. makes adjustment and informs hospital and Foundation
Foundation updates data base
Review complete

FIGURE 1
Review Process

Table 1

	August	September	October	November	December	Total
Cases Reviewed	5,202	4,883	7,513	5,907	9,198	32,703
Cases Denied	76	148	149	147	358	878
Percent Denied	1.5%	3.0%	2.0%	2.5%	3.9%	2.7%

denial is in the federal legislation 42 CFR 405.472. This provides for reconsideration of any adverse review determination by PRO and can be initiated by the provider, practitioner, beneficiary, or their representatives. Reconsiderations are conducted at the review area office unless this authority has been rescinded by the Foundation. In these instances, reconsiderations are conducted by the Foundation Central Office.

To initiate the reconsideration process a written request must be received by the Foundation area office within sixty days of receiving the denial letter from the Foundation office. Upon receipt of a request for reconsideration, the review area office acknowledges receipt of the request and informs all parties concerned about the request for reconsideration. The review area medical director selects at least one consultant physician in the same medical specialty or subspecialty area in which that case will fall for reviewing the medical records for reconsideration.

The review area office personnel make available for the reconsidering physician the case records, the findings that led to the initial adverse determination, and any documenting information submitted by the denial party or their authorized representative, and any other comment by the hospital or attending physician in addition to the chart documentation, if such is available. The reconsidering physician consultant reviews all this material and makes his determination.

The reconsideration process is completed within thirty days, and all parties involved, including the Fiscal Intermediary, receive a copy of the findings. Also, a copy is sent to the Executive Vice President and Medical Director in the central office, along with a summary of the qualification of the reconsidering physicians. This is done to provide for adequate oversight and control of this process. All records of reconsideration are maintained for a period of six years.

Discussion

The review process during the first five months of operation worked well. Despite the fact that it is a new process and no one likes to be reviewed, Missouri physicians and the hospitals have made a conscientious effort to comply with HCFA regulations. On its part, the Foundation has made an effort to conduct these reviews as fairly and as professionally as possible under HCFA regulations.

Table 2 shows the number of cases reviewed and the number of cases denied. During the first five months, 32,703 cases were reviewed from a total of 101,863 Medicare cases for which claims were paid during these months (32 percent). Of 32,703 cases reviewed, 878 were denied, a rate of 2.7 percent. Considering our commitment to reduce Medicare admissions by 10 percent, on the surface 2.7 percent seems to be very small. Because of the review process and the cooperation of Missouri physicians, we believe that there has been a significant decrease in the number of admissions of Medicare patients when compared with the same months last year. We don't have hard data as yet available to us. It will be a few months before we can match up the actual number of cases admitted during 1984 with the 1983 data.

In the past three years, while the increase in the gross national product has been 12.3, 4.0, and 7.7 percent, the national health expenditures have increased at 15.1, 12.5, and 12.4 percent. HCFA is serious about reducing health care costs, and we believe the review program is going to be with us for a number of years.

The Board and the staff of the Missouri Patient Care Review Foundation look forward to active participation by the Missouri physician in the review process. ■

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balances potent coronary vasodilation with a low incidence of side effects

Low incidence of side effects
CARDIZEM® (diltiazem HCl) produces an incidence of adverse reactions not greater than that reported with placebo therapy, thus contributing to the patient's sense of well-being.

Reduces angina attack frequency*
42% to 46% decrease reported in multicenter study.[1]

Increases exercise tolerance*
In Bruce exercise test,[2] control patients averaged 8.0 minutes to onset of pain; Cardizem patients averaged 9.8 minutes ($P<.005$).

CARDIZEM®
(diltiazem HCl)

THE BALANCED CALCIUM CHANNEL BLOCKER

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2/84

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*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

References:

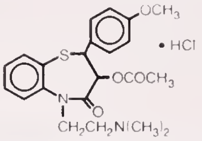
1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

PROFESSIONAL USE INFORMATION

cardizem®
(diltiazem HCl)
30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+)-cis-. The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4 **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGDT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia

The following additional experiences have been noted.

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia, and extreme elevations of alkaline phosphatase, SGDT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy**—CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

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PRESIDENT'S PAGE

by James M. Stokes, M.D.

Physicians must advocate positive and critical changes which can modify these regulations to benefit patient care.

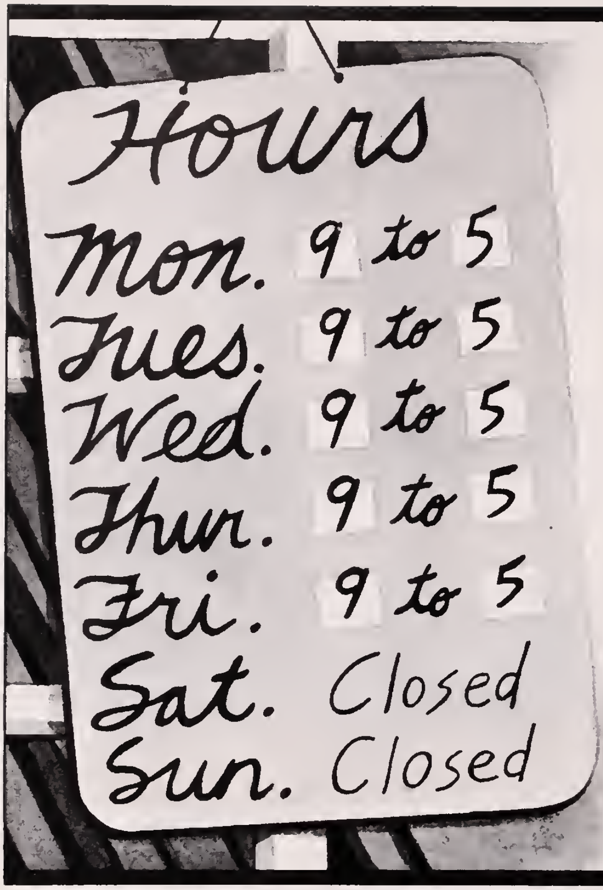
PRO Contract: MDs' Dilemma

The Missouri Patient Care Foundation now functions as the official peer review organization for the State of Missouri, supplanting the PSRO. Physician reimbursement for care of Medicare patients is subject to HCFA regulations. Physicians did not write the laws and do not have any direct control of regulations issued by HCFA. The only choice was to have other groups (government-appointed or medical insurance companies) regulate Medicare patients and physicians according to their own interests.

Two years ago, the Missouri State Medical Association and the Missouri Association of Osteopathic Physicians and Surgeons (MAOPS) organized a committee to negotiate with the federal government to obtain the PRO contract for Missouri. During months of negotiations, arbitrary contract and deadline changes were made frequently by HCFA. In some cases, these changes were retroactive. Two years of conferences by the Missouri Patient Care Review Foundation produced a contract acceptable to the rigid specifications of HCFA.

The Missouri State Medical Association was indeed fortunate in our representation by Dr. T. J. Cooper as chairman of this committee. Representatives of both MSMA and MAOPS devoted months to the preparation and revision of the hundreds of pages of detail. The final document represents many compromises, some of dubious value to patient care, but required by law. Numerous regulations appear to place primary emphasis upon budget reduction and only secondary concern on patient care.

Physicians must advocate positive and critical changes which can modify these regulations to benefit patient care. It is important that medical professionals do not "kill the messenger who bears bad tidings," but participate by voicing constructive alternatives at local, state and hospital staff meetings. Medical care administration should not be abandoned to bureaucratic regulation. Most physicians continue to provide quality care within the constraints of political legislation. Numerous physicians have submitted innovative suggestions to improve the structure and regulations of HCFA during this first year of operation and organized involvement is necessary in a continuing effort for the future. ■



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Auxiliary Message

by Mrs. Richard (Polly) Bowles
President

This past year has made me more aware of the valuable efforts of the MSMA and the AMA to promote the interests of medicine and to advance the quality of care to all Missourians.

Come join us at the Auxiliary's 60th Convention

The MSMA Auxiliary's 60th Annual Convention will be held April 11-13 at the Kansas City Hyatt Regency Hotel. General chairpersons for the convention are Mrs. Donald Fakhoury (Violet) and Mrs. William Goodson (Ina May). Registration will be in the Regency Chicago Foyer and most of our functions will take place in the Regency Chicago Room, down the hall from the Association's meeting rooms. We welcome all MSMA members to visit us and encourage you to view our exhibits depicting some of the county auxiliaries' projects and efforts this year.

The Auxiliary is grateful for our MSMA staff liaisons. This position has been filled by Jean Duensing until her recent retirement. We have come to love Jean and have greatly appreciated her cheerful, wonderful assistance. We look forward to demonstrating this appreciation to Jean at the convention. Laurel Cofer, the new managing editor of MISSOURI MEDICINE, will be our new liaison and we welcome her to our state Board.

The Seventh Annual MSMF/AMA-ERF Benefit Auction will be held at 6 p.m., Thursday, April 11 in the Atlanta Room. Your cooperation has always made this a successful project. Please bring your donated items for the auction to the Atlanta Room between 9 a.m. and 3 p.m., Thursday, April 11.

In tune with the national auxiliary emphasis on communication, the Awards Luncheon on Friday will feature Larry Moore, KMBC-TV Channel 9 news anchorman and managing editor. It will also be our pleasure to have as our guests several MSMA representatives and officers. During the luncheon, we will present individual and auxiliary awards to members.

The Dutch Treat Dinner is scheduled for Friday night. We will meet in the lobby of the Hyatt Hotel at 6:30 p.m. Everyone is invited.

The Public Affairs Breakfast at 7:30 a.m., Saturday, April 13 will be held in the Chouteau Room. Our guest speaker will be the Honorable Alan Wheat, 5th District Congressman.

This will be my last president's address to you for the Auxiliary. Mrs. George (Chris) Bohigian will become the new MSMAA president at the Auxiliary Installation Luncheon, Saturday, April 13. I want you to know that this year has made me more aware of the valuable efforts of the MSMA and the AMA to promote the interests of medicine and to advance the quality of care to all Missourians. I admire the work you do, and sincerely appreciate your many courtesies and assistance to me throughout this past year.

The Auxiliary is looking forward to a good convention, and we hope to see you there. ■

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Prevention of Deep Vein Thrombosis

Use of Sequential Pneumatic Cuff Calf Compression

G. William Pogson, M.D., William Reed, M.D., Gerald S. Weinstein, M.D.
Kansas City, Missouri

A randomized, controlled, prospective study of 141 patients undergoing coronary artery bypass surgery demonstrated a marked reduction in the incidence of deep vein thrombosis (DVT) with sequential pneumatic cuff calf compression. Cuffs were applied at the beginning of the operation and removed on the third postoperative day.

The incidence of DVT in the cuff group was 3.4% (2/58) compared to 30.1% (25/83) in the control group. The reduction of DVT in the cuff group was highly significant ($p<0.001$).

Deep vein thrombosis is a frequent complication of major surgery.[1] Intermittent pneumatic cuff calf compression has been shown to reduce the incidence of deep vein thrombosis following orthopedic, general surgical and neurosurgical procedures.[2-10] However, its effectiveness in cardiac surgery has not been reported. A randomized, controlled, prospective study was undertaken to determine the effectiveness of intermittent pneumatic cuff calf compression in preventing deep vein thrombosis following saphenous vein aorto-coronary bypass surgery.

Materials and Methods

The protocol for this study was reviewed and approved by the Human Investigation Committee of St. Luke's Hospital, Kansas City, Mo. Informed consent was obtained from all patients in the study.

All patients undergoing saphenous vein aorto-coronary artery bypass surgery were considered as potential candidates for this study. Patients undergoing valve replacement, repeat coronary artery bypass, or coronary artery bypass combined with other cardiac procedures were excluded.

Patients were randomized on the basis of their chart numbers. The original protocol called for 200 patients to be randomized; however, the study was terminated following the occurrence of autopsy-proven, fatal pulmonary emboli in a patient in the control group. By the time this event occurred 158 patients had been randomized and 141 had completed the study.

Sequential pneumatic cuff calf compression devices (THROMBOGARD: Gaymar Industries, Inc., Orchard Park, New York) were applied to both legs

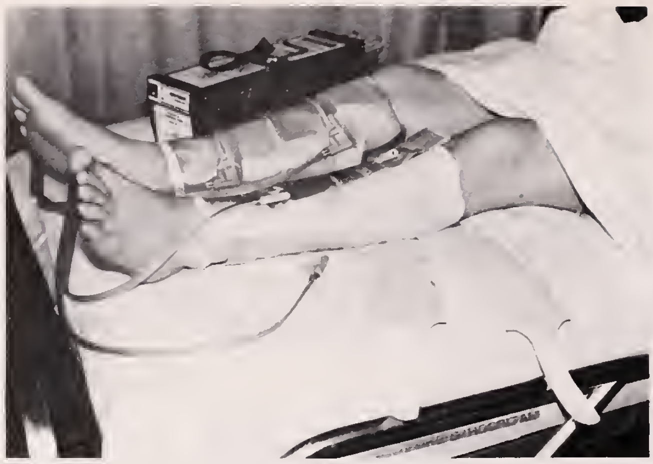

Figure 1. Application of the sequential pneumatic compression cuffs. The cuffs are partially divided between the second and third segments to allow access to the proximal calf.

(Figure 1). The cuffs were partially divided between segments two and three so that the lower two segments could be applied and still leave most of the calf available for harvest of the saphenous vein from the thigh and upper calf. The cuffs were applied in the operating room and were activated after the induction of anesthesia. During the operation, patients were heparinized with a dose of 3 mg/kg and given an additional dose of 1 mg/kg for each hour of extracorporeal circulation. Standard bypass techniques were used with hemodilution and moderate hypothermia. At the end of the procedure, the heparin was reversed with protamine. The cuffs were left in operation continuously, except for brief interruptions for wound care, and were removed on the morning of the third postoperative day. No other preventive measures (such as low-dose heparin or elastic stockings) were used.

Patients were removed from the study for the following reasons: voluntary withdrawal, development of a condition requiring anticoagulation, or inadvertent disconnection of the cuff tubing or the pump. Any patient who was found to have nonfunctioning cuffs for more than one hour was dropped from the study.

Each patient was examined daily by three independent observers: the attending cardiologist, the attending surgeon, and one of the investigators (Dr. Weinstein or Dr. Pogson). A daily record was kept of the presence or absence of leg tenderness, pain, or edema. Patients were observed until discharge from the hospital.

On the seventh postoperative day, each patient was screened for deep vein thrombosis with impedance plethysmography and Doppler ultrasound unless venography had already been performed for abnormal physical signs or symptoms. IPG was done using the Cintor IPG-200 Impedance Phlebograph employing standard techniques. At least three determinations were made on each leg, and frequently five were recorded. Liberal criteria for abnormality were used to maximize the sensitivity of this technique.

Table 1

Patients Withdrawn From Study

Reason	*Number*
Cuff Group	
Cuffs disconnected	6
Discomfort	2
Anticoagulants given	1
Total	9
Control Group	
Anticoagulants given	7
Postoperative death	1
Total	8

Table 2

Clinical Profile of Patients Completing the Study

	Control Group	*Cuff Group*
Number	83	58
Number of vein segments removed (mean)*	2.4	2.3
Males	63 (75.9%)	49 (84.5%)
Preoperative ejection fraction (mean)	0.64	0.66
Age by decade	60.1 yrs	55.6 yrs
30-49 yrs	10 (12.1%)	15 (25.9%)
50-59 yrs	31 (37.4%)	22 (37.9%)
60-69 yrs	31 (37.4%)	17 (29.3%)
70-79 yrs	11 (13.3%)†	4 (4.9%)

* Number of vein segments is different from the number of distal coronary artery anastomoses as some patients had sequential grafts.

† Rounding off the last digit gives total percentage = 100.2%.

Venous Doppler ultrasound studies were done in the supine position, using a portable unit operated by experienced technicians employing techniques described by Barnes.[11] When incisional pain made it difficult for the patient to lie prone, the popliteal vein segment was examined with the patient supine with the knee slightly flexed.

Venography was performed if there was an abnormal IPG, Doppler findings of absent or diminished spontaneity or phasicity (of the common femoral, superficial femoral, or popliteal veins), or physical findings suggestive of deep vein thrombosis. Each venogram was interpreted independently by two or more experienced venographers. Clots in the deep venous system, including muscular calf veins, were considered as deep vein thrombosis.

One hundred and fifty-eight patients were randomized for the study: 91 controls and 67 cuff-treated patients. Nine cuff and eight control patients were dropped from the study for a variety of reasons (Table I). The two cuff patients who were dropped from the study because of leg discomfort had incisional pain in the calf which was aggravated by the cuff. Their cases were not followed after being dropped from the study. The clinical profiles of the 141 patients who completed the study are shown in Table II.

Table 3
Diagnostic Method Leading to Venography

Method	*Number of Patients* Control	Cuff
Physical examination	31	11
Abnormal doppler and/or IPG	8	6
Total	39	17

Table 4
Results of Venography

	Number of Patients Control	Cuff
Positive	25	2
Negative	14*	15†
Number of patients in group	83	58
Incidence of DVT‡	30.1%	3.4%

DVT = deep vein thrombosis, *5 bilateral, †12 bilateral, ‡difference significant $p<0.001$.

Differences in the incidences of discrete variables in controls and cuff-treated patients were analyzed by the chi-square technique with Yates' correction.[12] Multiple regression analysis and discriminant function analysis were performed by Mary Cook, Ph.D. of the Midwest Research Institute.

Results

One hundred and forty-one patients completed the study. There was a highly significant difference in the incidence of deep vein thrombosis in the two groups: 3.4% (2/58) in the cuff group versus 30.1% (25/83) in the control group ($p<0.001$). Of the two patients in the cuff group who developed deep vein thrombosis, one had a previous history of deep vein thrombosis and the other had only a single small clot in a muscular calf vein.

Seventeen patients in the cuff group and 39 patients in the control group underwent venography. The indications for venography are listed in Table III and the results are shown in Table IV.

The location and extent of the deep vein thrombosis is shown in Table V. Twenty of the control patients had extensive deep vein thrombosis versus one patient in the cuff group. The relationship of the patient's age to the incidence of the deep vein thrombosis is shown in Figure 2. The risk increased with age: 66.7% of the cases of thrombosis occurred in patients aged 60 years or older, although patients in this age range constituted only 44.7% of the patient population ($p<0.025$). Deep vein thrombosis was detected most frequently on the sixth and seventh postoperative days (Figure 3).

Multiple regression analysis indicated the following factors significantly affected the likelihood of developing deep vein thrombosis: being in the control group ($p<0.001$), having three or more vein segments removed ($p<0.001$) (Table VI), and being in an older age group ($p<0.038$).

Table 5
Venography Findings

	Number of Patients Control	Cuff
Clot in muscular veins only	5	1
Clot in deep calf veins ± muscular veins	15	0
Clot in popliteal iliofemoral, and/or superficial femoral veins	5	1

Table 6
Effect of Number of Vein Segments Removed on the Incidence of Deep Vein Thrombosis

Number of Vein Segments Removed	*Cuff Group*	*Control Group*
One	0.0% (0/8)	0.0% (0/10)
Two	0.0% (0/27)	18.7% (6/32)
Three to four	8.7% (2/23)	46.3% (19/41)

Discussion

The 30.1% incidence of deep vein thrombosis in the control group is consistent with the incidence reported in similar studies of general surgery patients. In six "low dose" heparin studies of general surgery patients, the mean incidence of deep vein thrombosis in the control groups was 25%.[13] In the present study, the incidence of deep vein thrombosis in the control group was at least 30.1% as venography was used to make the diagnosis.

Fibrinogen leg scanning is the usual method of detecting deep vein thrombosis in prospective studies. However, it was felt that radioactive fibrinogen studies might not be accurate in patients who had undergone saphenous vein harvest, with attendant long leg incisions and extensive dissection. Capillary leak and local extravascular thrombus formation might obscure the meaning of a positive scan.

In the past, clinical evaluation has been felt to be inadequate in evaluation of deep vein thrombosis, because many such patients have been asymptomatic. In the present study, however, nonincisional leg pain and calf tenderness proved to be sensitive indicators of deep vein thrombosis. Calf tenderness was present in 21 of the 27 patients (77.8%) in whom deep vein thrombosis was diagnosed.

Although some cases of deep vein thrombosis may have escaped detection, the liberal use of venography (47.0% of the control group and 29.3% of the cuff group: 39.7% overall) with a large proportion of negative venograms (88.2% in the cuff group and 35.9% in the control group), suggests that undetected cases were rare. We believe that all clinically significant cases were detected.

Other methods of prophylaxis have failed to achieve widespread acceptance. Small dose heparin has been studied extensively in general surgical patients, but bleeding complications have limited its use. Dextran 70 and dextran 40 have both been used with

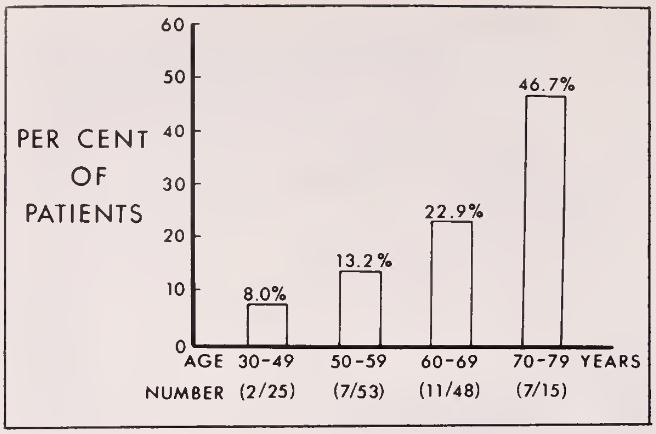

Figure 2. Effect of age on the occurrence of deep vein thrombosis. The percentage refers to the incidence for each individual age group.

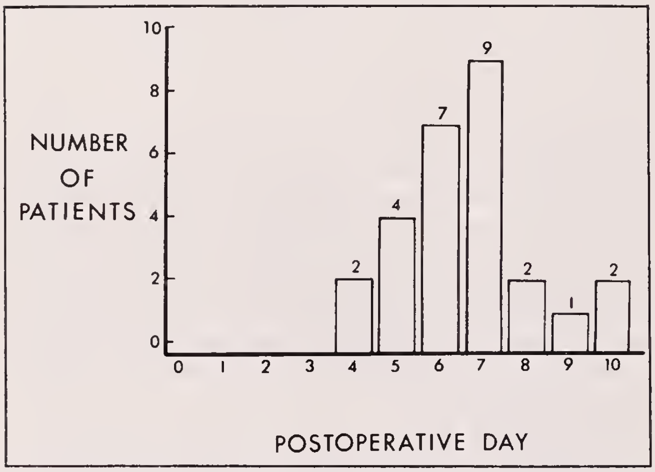

Figure 3. Postoperative day of detection of deep vein thrombosis.

equivocal results, and volume-loading may be a problem in cardiac patients.[13-14] Elastic wraps and stockings have failed to prove effective and may have deleterious effects.[15-16] It is interesting to note that total heparinization and hemodilution in our control group failed to protect against the development of deep vein thrombosis.

Intermittent pneumatic cuff calf compression is thought to work by preventing venous stasis and improving venous blood flow velocity. Several reports indicate that intermittent compression of the extremities stimulates systemic plasminogen activity.[17-18]

The effectiveness of pneumatic calf compression has been demonstrated in many controlled studies of general surgical and neurosurgical patients, reducing the incidence of deep vein thrombosis from a mean of 29% to a mean of 3% in general surgical patients, and from 17% to 6% in neurosurgical patients.[2-10] The mean incidence of 29% in the control groups of the general surgery patients in these studies is quite similar to the incidence of 30.1% found in the control group of the present study.

The cuffs have no known harmful side effects. There were no complications associated with their use, and patient acceptance was good. The presence of the cuffs over the area of the calf incisions had no adverse effects on wound healing or local postoperative pain.

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The authors gratefully acknowledge the assistance of G. D. Dixon, M.D., in interpreting the venograms and the skilled work of Ms. D. Lillard and Ms. K. Robinson in performing the Doppler and IPG studies.

The authors also wish to thank D. A. Killen, M.D., for his critical reading of the manuscript.

Diagnostic Approach to Metastatic Disease to the Liver

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Hepatic sonography should be the first diagnostic procedure of choice in screening patients for possible metastatic disease to the liver. Computed Tomography can be falsely negative in diffuse liver metastasis and may mislead the clinician in patient management.

In a patient with malignant disease, evaluation of the liver for metastatic disease is of utmost importance. Detection of metastatic disease to the liver may change the patient's stage of disease and hence therapy. The diagnostic examinations that are most sensitive, reliable and non-invasive must be determined.

Although computed tomography (CT) has become the most valuable diagnostic tool for the evaluation of liver metastasis for staging of malignant tumors,[1] occasional pitfalls do require further diagnostic determination other than a CT examination. Therefore, the pitfall of diffuse liver metastasis must be emphasized and other non-invasive means, such as ultrasonography, may aid in the diagnosis of metastasis to the liver. Such a case is discussed in the following report.

Case Report

A 57-year-old white woman was admitted to Truman Medical Center in Jan. 1984 for fullness in the right upper quadrant of the chest. Six years ago, the patient was diagnosed to have carcinoma of the left breast for which she underwent a radical mastectomy.

The patient was sent to the ultrasound laboratory for evaluation which showed multiple hyperechoic (Figs. 1, 2, 3) involving the entire liver diffusely, consistent with diffuse metastatic disease.

A CT scan then was performed with intravenous contrast infusion and bolus. The scan did not show any lesions (Figs. 4, 5, 6) which suggested metastasis, thus emphasizing CT false negative findings in diffuse liver metastasis.

Ultrasonography

Because of the rapid technological advances in ultrasonography, it has been suggested that sonography is the method of choice in evaluating the abdomen, particularly the liver.

The advantages are that it is more accurate and quicker with minimum cost and risk to the patient. The quality of sonography depends upon technical factors and the operator. The accuracy of sonography in detecting the liver lesions is 80% to 85%.[2] Its major disadvantages are its accuracy in patients who are obese and who have interference by bowel gas.

A complete abdominal survey is done by a high resolution real-time scanner. In the examination of the liver, the distribution and branches of hepatic veins and portal veins are used in localizing pathological abnormalities and for orientation. This is followed by static images of the liver which further confirm the textural pattern of the liver and sometimes gives more information.

Ultrasonography can detect both benign and malignant focal abnormalities.[3] These lesions include hemangiomas, focal nodular hyperplasia, cysts, adenomas, abscesses, metastases and focal hepatomas. They appear with different degrees of echogenicity, ranging from hyperechoic to hypoechoic lesions or as echo-free. Many of the malignant tumors may simulate inflammatory masses or benign tumors. Benign tumors may have a similar sonographic appearance as malignant tumors. Therefore, it is essential that the sonologist have appropriate clinical information.

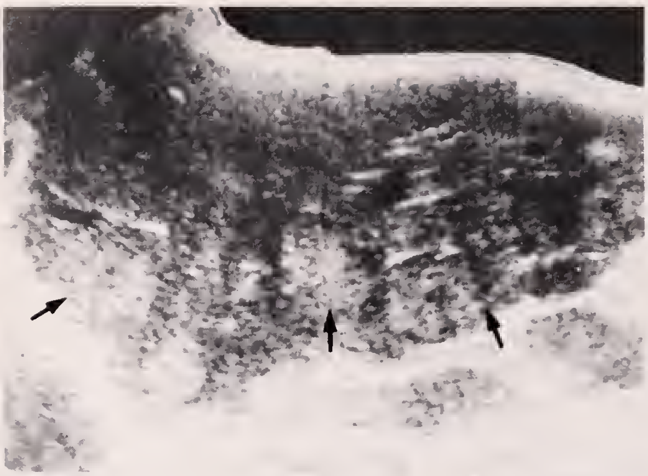

Figure 1. Multiple hyperechoic areas involving the entire liver representing metastatic disease.

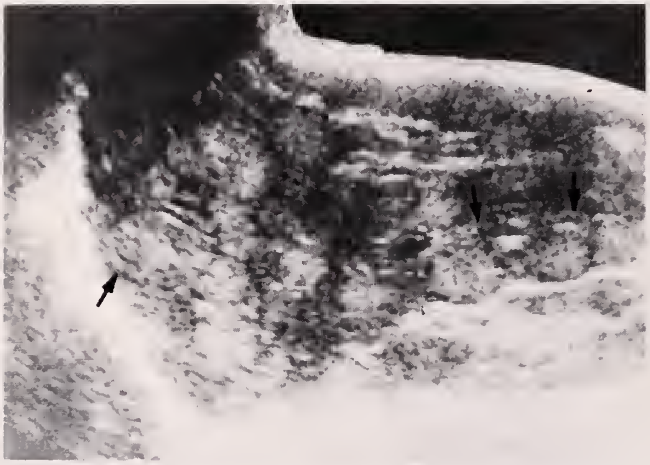

Figure 2. Hyperechoic solid masses consistent with metastatic disease.

Hepatic metastases produce lesions of varying echogenicity. They may be represented by hyperechoic, hypoechoic (Figs. 1, 2, 3), anechoic or diffuse alteration of texture. Sonography does not give information regarding their vascularity or histology. Metastatic lesions from the colon, malignant melanoma, choriocarcinoma and thyroid carcinoma are echogenic. The presence of calcium in the mass indicates the primary tumor is a mucin producing adenocarcinoma such as derived from colon, stomach or ovary. Completely anechoic masses have been seen in necrotic tumors and can be distinguished from benign cysts by their irregular margins. Focal fatty infiltration sometimes may be mistaken for hepatic metastasis. Sonographically, it may be difficult to distinguish the primary tumor from hepatic metastases.

Simple cysts are easily recognized sonographically as enechoic masses with smooth walls and posterior echo enhancement. Abscesses may be echo-free or complex and may simulate benign cysts and metastases. In the immunosuppressed patient, microabscesses due to fungal diseases may simulate hepatic metastases.[4]

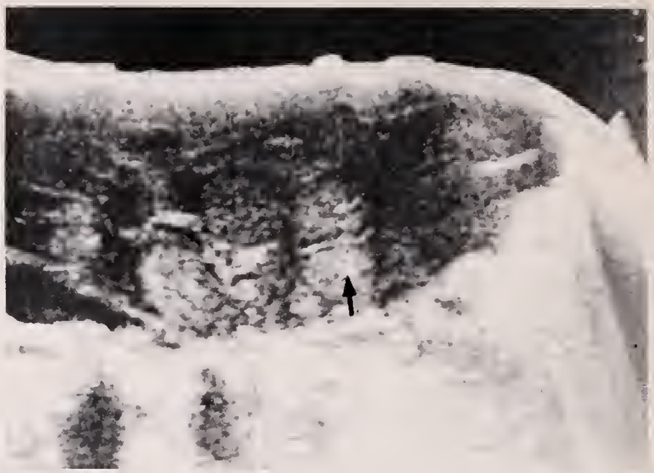

Figure 3. Inhomogeneous liver texture demonstrating solid masses.

Diffuse hepatic disease, such as fatty infiltration, cirrhosis, lymphoma and diffuse metastatic disease, can be diagnosed by sonography and the sensitivity is as high as 80% to 95%.[5]

The conditions described above produce architectural distortion of the liver parenchyma and generalized increased echogenicity. The sonologist must be aware that the incorrect setting of time compensated grain curve and the use of incorrect transducer may produce liver scans with either increased or decreased echogenitity of the liver parenchyma.

Sonographically, lesions greater than 1cm can be detected. Sonography is an extremely accurate, noninvasive modality for follow-up of a patient's disease process.

Computed Tomography

This is an extremely accurate and less technically oriented examination. It is accurate in about 90% to 95% of all cases. Diffuse microscopic disease is difficult to detect. Detection depends upon scanning techniques such as collimator size, slice thickness, and use of IV contrast. The most important point is to increase the contrast between an abnormal area and the normal hepatic tissue.

Computed tomography is useful in detecting extra-hepatic disease such as in the retroperitoneum and in determining the full extent of the disease. Although computed tomography does not lead to a specific histologic diagnosis, it often helps to narrow the list of possibilities compared with sonography or radionuclide scanning. Computed tomography is superior to sonography in detecting retroperitoneal adenopathy as well as pancreatic, adrenal and skeletal lesions.

Radionuclide Liver Scanning

Detection of liver masses by liver scans depends upon the lack of Kupffers' cells uptake of 99mTc sulphur colloid by the lesion. Sensitivity is approximately 80% to 85%.[6] This examination is inexpensive and easy to perform. However, it is non-specific. A lesion

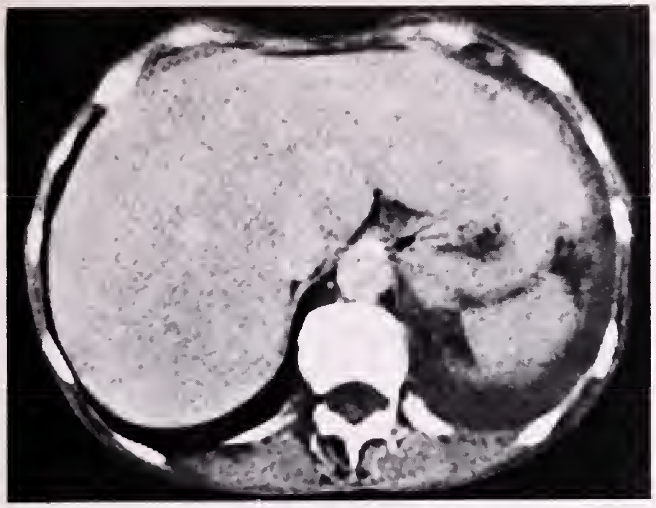

Figure 4. CT scans fail to reveal metastatic disease.

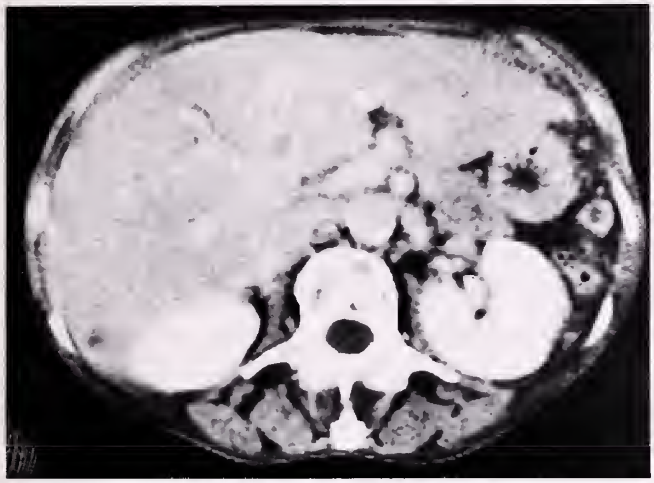

Figure 5. No evidence of metastatic disease is seen.

may be detected but the cause of the lesion is difficult to determine.

Significant false negative and positive results of 15% to 25% are a drawback. False positive results are due to normal anatomic variations such as portahepatis, gall bladder fossa, or posterior portion of the right lobe of the liver when it is indented by the right kidney. False negative results are due to the small size of the lesion. The usual size of the lesion detected by radionuclide scan is 2cm or larger.

Cost and Availability

Ultrasound examinations are less expensive than computed tomography, are often more accurate, and are non-invasive. To date, no biological effects have been described.

Computed tomography is more expensive and requires intravenous administration of contrast material which has low risk of contrast reaction. Although well within range of many diagnostic studies, it exposes the patient to ionizing radiation. Ultrasound could be performed immediately and portably; whereas a computer tomographic examination is sometimes delayed.

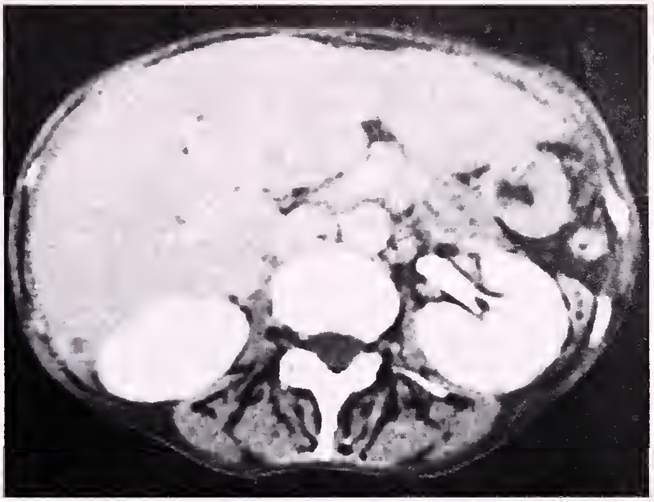

Figure 6. No metastatic foci are identified.

We feel that sonography should be the first diagnostic procedure of choice in screening for possible metastatic disease to the liver. If sonography is negative, a CT scan is suggested as the next step. Computed tomography detects more distant metastasis other than in the liver. In our institute, we examine the patient in this manner: 1. sonography; 2. computed tomography; and 3. hepatic scintigraphy.

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Alcohol Withdrawal Syndromes

Part II: Management

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The alcohol withdrawal syndromes are a group of clinical disorders that occur in some chronic alcoholics following cessation of drinking.

In the final segment of this two-part article, the author discusses the clinical management of the alcohol withdrawal syndromes including delirium tremens. Relatively few patients (5%) withdrawing from alcohol will manifest true delirium tremens. When they do, however, prompt attention by the physician may mean the difference between life and death.

There are four key elements in the successful management of the patient who is withdrawing from alcohol: recognition, appropriate sedation, attention to fluid physiology and intensive follow-up.

Recognition

Alcoholic tremulousness, hallucinosis and delirium tremens share many common clinical features. It is common for the physician to think that he or she is treating delirium tremens when, in reality, the patient is exhibiting one of the milder forms of alcohol withdrawal. This may lead to oversedation and overhydration as the physician attempts to compensate for the physiologic changes that are expected with delirium tremens.

Even more dangerous is the situation in which the physician thinks that he or she is dealing with one of the milder forms of withdrawal when in fact the patient is developing delirium tremens. This may lead to considerable underestimation of the physiologic changes afoot, particularly with regard to fluid loss. The result of this inattention all too often is a patient with profound volume depletion in vascular collapse, clearly a situation of "too little, too late."

Astute and continued observation of the patient is essential for the prompt recognition of the onset of delirium tremens. Fortunately, most alcoholics hospitalized in withdrawal will exhibit only tremulousness or hallucinosis. Some will convulse. Relatively few (5%) will manifest true delirium tremens. When they do, however, prompt recognition by the physician may mean the difference between life and death.

General Principles of Treatment

The patient who is withdrawing from alcohol ideally should be placed in a private, well-lit room to minimize the number of extraneous noises and diversions. Such an environment will also minimize the potential for illusions and hallucinations that are more likely to occur in a shadow-filled, darkened room. The patient need not be in an intensive care unit as long as adequate nursing care is available on the ward. In fact, the often noisy and bustling intensive care unit may serve only to aggravate agitation and hallucinosis. Practically speaking, however, the intensive care unit may be the only place where the necessary intensive nursing care is available. One should not hesitate to use the facility in this case. As much as possible, the patient should be isolated from the beeps, groans, and moans of the ever-present myriad of mechanical devices.

A thorough history and physical exam should be performed. The physician must be particularly alert to the conditions that may mimic or complicate alcohol withdrawal. Baseline laboratory tests should include a complete blood count, urinalysis, serum electrolytes (including calcium and magnesium), blood urea nitrogen, liver function studies and the testing of stool for occult blood. Specific laboratory studies and special procedures should be performed as necessary.

To prevent the possibility of Wernicke's syndrome, 100 mg thiamine should be administered intramuscularly for each of the first two days of hospitalization. Multivitamins, administered orally or intravenously, may also be useful. Vital signs should be taken every four hours from the alcoholic who is manifesting one of the milder forms of withdrawal. The patient should be observed frequently by the physician and nursing staff to assess the progression of symptoms. The patient in delirium tremens should have vital signs checked every half hour (temperature taken every hour) as physiologic changes, including vascular collapse, may occur suddenly. Opinion is divided concerning the need for routine nasogastric suction and endotracheal intubation in such patients.

Sedation

The ideal sedative drug used in treating the patient in alcohol withdrawal should possess the following properties: 1. It should have rapid onset and a moderate duration of action, and a cumulative effect that increases at a predictable rate on repetitive administration, 2. It should possess anti-convulsive properties, 3. It should induce and maintain a state of calm without causing cardiorespiratory depression, and 4. It should be metabolized by organs other than the liver.[9]

Although none of the more than 135 drugs used over the years for sedation in alcohol withdrawal possesses all of these properties, four drugs have been particularly useful in managing agitation associated with alcohol withdrawal. These are chlordiazepoxide, diazepam, paraldehyde, and moderate-to long-acting barbiturates.[17-26]

Chlordiazepoxide and diazepam come as close as any drug to the ideal sedative for use in withdrawing alcoholics. They both have a rapid onset and moderate duration of action. Both possess anti-convulsant properties, diazepam being the more efficacious of the two in that regard. Both drugs may be given orally, intramuscularly, or intravenously. Both drugs are capable of producing respiratory depression particularly if given intravenously, but rarely do. Unfortunately, both are metabolized by the liver, and thus the cumulative action of the drugs and the response to repeated doses is unpredictable.

Paraldehyde has a relatively rapid onset of action (10-30 minutes). The duration of action is variable, but it generally ranges from two to four hours. Doses required for induction and maintenance of sedation are quite variable. Paraldehyde is metabolized similarly to alcohol and thus may be subject to accelerated metabolism in the liver, where it is primarily metabolized. Up to 20% may be excreted via the lungs, but this is insufficient to compensate for the abnormally slow metabolism of paraldehyde in the alcoholic with widespread liver destruction. Paraldehyde possesses anticonvulsant properties. Unfortunately, its propensity for respiratory depression is great and thus great caution must accompany its use. Paraldehyde may be given orally or per rectum. When giving the drug orally, one must be careful not to handle it in plastic containers (or nasogastric tubes) as it will rapidly dissolve plastic. Glass containers (or rubber nasogastric tubes) should be used. Oral paraldehyde is commonly given with orange juice but its still quite noxious to some and may induce vomiting and, therefore increase the danger of aspiration pneumonia. Rectal paraldehyde may lead to proctitis. Intramuscular injection of paraldehyde may produce sterile abscesses.

The barbiturates are mentioned here only because many medical texts persist in listing them among the drugs suggested for sedation in delirium tremens. There is no doubt that they are quite effective in sedating the agitated patient when used in appropriate doses. They also possess anti-convulsive properties. They are, however, metabolized in part by the liver and the duraton of sedation is unpredictable. Furthermore, when administered intravenously in a patient with or without liver disease, barbiturates carry an inordinate risk for respiratory depression.

The choice of a sedative drug, its route of administration, and the dose depend in large part on the degree of agitation that the patient exhibits. In alcoholic tremulousness and hallucinosis, and even in some cases of delirium tremens, the agitation may range from mild to severe. In delirium tremens, agitation often is extreme. Mild, moderate, and some cases of severe agitation can often be controlled using chlordiazepoxide administered orally in doses ranging from 25 to 100 mg every six hours.[10] Alternatively, diazepam administered orally in doses of 5 to 20 mg may be used initially for sedation.[10] This dose may be repeated or increased every two hours until agitation is reduced and then given orally in doses of 5-20 mg every six hours for maintenance.[10]

Drugs such as hydroxyzine, diphenhydramine, oxazepam, secobarbital, phenobarbital, amytal, and a variety of phenothiazines have been used with variable success. In general, they have been less efficacious and/or more toxic than chlordiazepoxide or diazepam.[20-26]

Treatment of extreme agitation in delirium tremens has served as the focus of several controlled comparisons of a variety of drugs.[17-26] Chlordiazepoxide, diazepam and paraldehyde have consistently been shown to be more efficacious and/or less toxic than a variety of phenothiazines (promazine, chlorpromazine, prochlorperazine, and trifluoperazine).[17-26] Amytal and phenobarbital have also received attention in medical literature. Controlled trials with barbiturates are lacking although anecdotes are plentiful. Amytal and phenobarbital in general have been recommended over such analogues as secobarbital and pentobarbital for reasons that are largely arbitrary. Drugs such as hydroxyzine, diphenhydramine, and oxazepam have received some attention in recent literature. As yet, they have not been subjected to the same type of controlled comparisons as have chlordiazepoxide, diazepam and paraldehyde.[20-26]

For extreme agitation, chlordiazepoxide should be given in doses of 12.5 mg/min intravenously to induce a state of calm.[10] The subsequent doses should then be individualized, but generally range from 25-100 mg orally or intramuscularly every six hours.[10] The objective, as with all sedatives, is to produce a state of calm in which the patient will sleep when undisturbed, but will awaken relatively easily when aroused. The doses of chlordiazepoxide should be reduced during the later stages of the delirium, otherwise, reduced sedative requirements may result in oversedation.

Diazepam should be administered intravenously in doses of 2.5 mg/min until the patient is calm.[10] The doses necessary for induction of sedation are highly variable and have ranged from 15-215 mg in various studies.[10] Patients who have been taking the drug chronically may require higher doses for both induction and maintenance. Diazepam, when given intravenously, should not be given through intravenous tubing as it has a propensity to absorb onto the plastic. Maintenance doses of diazepam are also highly individualized, but 5-10 mg intravenously every one to four hours will generally suffice.[10] As with chlordiazepoxide, the requirement for sedation will lessen as the delirium nears the end of its course.

Paraldehyde is the only "time-tested" drug that has held up well in clinical comparisons with other drugs in the treatment of extreme agitation in delirium tremens. Paraldehyde is administered orally or per rectum in doses of 8 to 12 ml[10] to induce a state of calm. Maintenance doses are individualized, but generally range between 5-12 ml administered orally or per rectum every two to four hours. Chloral hydrate, in doses of 0.5-1.0 g orally every six hours is often used to potentiate the effect of paraldehyde. It must be used with caution in the patient with liver disease. The usefulness of the paraldehyde/chloral hydrate combination over that of paraldehyde alone remains to be proven in controlled trials.

Sodium phenobarbital and sodium amytal may be used in doses of 120 mg intramuscularly or intravenously for induction and doses of 120 mg intramuscularly or intravenously every three to four hours thereafter for maintenance of calm.

Regardless of which drug is used, the physician must remember that the induction process (the process of creating a state of calm) is often more difficult than maintaining that state. The doses of a sedative drug necessary for induction will vary greatly from one patient to another and may bear little resemblance to maintenance doses. The potential for respiratory depression is highest at this time. One should attempt to achieve a state in which the patient is asleep when left alone, but may be awakened when aroused by medical personnel. For subsequent doses, the patient should be permitted to "lighten up" to the point of drowsiness and then be given a dose that will once again produce light sleep. Allowing the patient to recover fully from the sedative's effect and then once again become delirious only makes subsequent sedation more difficult.

Appropriate sedation will help to reduce some of the sympathetic overdrive present in patients with delirium tremens. In well-sedated patients the heart rate will be slower and there will be less diaphoresis and hyperventilation. Proper sedation is a key factor in the successful treatment of alcohol withdrawal, particularly delirium tremens.

Treatment of Alcoholic Hallucinosis

Management of severe acute alcoholic hallucinosis consists of intramuscular injection of haloperidol in doses of 0.5 to 2.0 mg. Injections should be administered every two hours until hallucinosis is controlled (not to exceed five doses every 24 hours). Mild hallucinosis may require no therapy other than mild sedation. Chronic auditory hallucinosis requires indepth psychiatric evaluation and treatment.

Treatment of Withdrawal Seizures

Controversy exists concerning the treatment of withdrawal seizures. Most authorities agree the patient who exhibits one or two seizures requires no anticonvulsant therapy. Patients with repeated seizures should be given a loading dose of phenytoin (10 mg/kg up to 1000 mg dissolved in 250-500 ml of 5% dextrose in water) by intravenous infusion over four hours. This should be followed by 100 mg administered orally or intramuscularly every eight hours for three to four days. Long-term therapy in such patients is unnecessary. Anticonvulsant therapy is also indicated in the alcoholic with "rum fits" who either has a seizure diathesis or has previously experienced withdrawal seizures. In such patients, phenytoin should be administered in doses of 100 mg orally every eight hours if the patient has a therapeutic serum phenytoin level on admission. If little or no phenytoin is detected in the serum of such patients, maintenance therapy should be preceded by an orally administered loading dose of 200-300 mg of phenytoin.

Fluid Requirements

It had long been assumed that the chronic alcoholic entered wihdrawal in a state of dehydration. Knott and Beard, in an elegant series of experiments reported in 1968, demonstrated that alcoholics in the early stages of withdrawal were, in fact, overhydrated.[29] The state of overhydration is related to the effect of alcohol on antidiuretic hormone (ADH). When alcohol levels are high or rising, ADH release is inhibited and a relative diuresis ensues. There is some evidence that sudden cessation of alcohol consumption following prolonged exposure of the hypothalamic/pituitary axis to alcohol causes rebound hypersensitivity. A falling or absent blood alcohol level in chronic alcoholics is thought to provoke an overproduction of ADH and consequently a marked reduction in the excretion of free water. In the patient who has not suffered substantial gastrointestinal fluid losses, the result is overhydration.

Knowledge of this physiologic principle is extremely important in assessing the fluid status of the patient in withdrawal. Insensible losses during alcoholic tremulousness and hallucinosis are minimal, and therefore, in the absence of substantial gastrointestinal losses, fluid loading is unnecessary. In fact, some authorities have recommended diuretics during this phase of withdrawal. It seems that the most sensible approach to fluid therapy early in withdrawal is to search carefully for causes and signs of volume depletion. If they are absent, the patient should be given fluids orally to compensate for measured and insensible losses.

The physiologic changes during delirium tremens are quite another matter. During delirium tremens, there are three major sources of fluid loss: from the skin as sweat and evaporation, from the respiratory tract as water vapor, and from the gastrointestinal tract as diarrhea and vomiting.

Losses from the skin may reach enormous proportions during delirium tremens. The combination of hyperthermia and the overactive sympathetic nervous system frequently cause the delirious patient to sweat copiously. Fluid losses from the skin may be grossly underestimated by physicians. Attempts to quantify fluid losses from the skin based on ambient or body temperature have produced variable and inconsistent results. Prior studies, however, have demonstrated that fluid losses from the skin may be enormous under certain conditions. For example, Gosselin showed that military recruits walking clothed in the sun in Death Valley carrying a 51-pound pack lost 1000 gm (approximately 1 liter) of sweat per hour.[30] Although such studies are not directly applicable to the patient in delirium tremens, they provide some idea of the potential magnitude of fluid loss from the skin.

In estimating the quantity of fluid loss from the skin, the physician must take into consideration not only the magnitude of sweat loss, but also the total amount of time that the patient exhibits a given magnitude of sweat loss. Body temperature is also an important factor (assuming that the ambient temperature and humidity in the hospital room are normal). Under normal conditions, a 70-kg man will lose approximately 500 ml of water by evaporation and diaphoresis. For minimal degrees of diaphoresis (moist skin without beads of sweat) sustained over a 24-hour period, the loss may approximate 1 to 3 liters. For moderate to marked degrees of diaphoresis (drenching sweats), the losses over a 24-hour period may potentially exceed 4 liters. It is, however, rare for any patient — including the alcoholic in delirium tremens — to have sustained drenching sweats for 24 hours.

It is therefore mandatory, in order to accurately estimate the total magnitude of skin losses, that the physician assess and reassess the degree of diaphoresis several times during the day and night. It is not at all unusual for a patient in delirium tremens to sweat copiously during periods of agitation, only to demonstrate little or no skin moisture during periods of adequate sedation. Hyperthermia tends to accelerate the rate of water loss via the skin. It is, however, difficult to estimate quantitatively the interrelationship between sympathetic-induced diaphoresis and evaporation and fever-induced diaphoresis and evaporation. Attempts to estimate fluid losses on the basis of hyperthermia alone often fall short of true losses.

The sodium concentration of sweat tends to decrease as the magnitude of diaphoresis increases (an aldosterone-mediated effect). In patients with delirium tremens, sodium lost through the skin may be replaced by intravenous infusion of 5% dextrose and one-fourth normal saline in water.

Under normal conditions, 300-500 ml of water vapor are lost from the respiratory tract over 24 hours. The losses due to hyperventilation may be estimated as being directly proportional to the increase in respiratory rate. In other words, if it is estimated that 500 ml are lost per 24 hours at a respiratory rate of 12-14 per minute (normal), then 1000 ml would be lost per 24 hours at a respiratory rate of 24-28 per minute. Because the respiratory rate varies with the body temperature and degree of sedation, the clinician should assess this variable at multiple intervals before estimating respiratory losses. Respiratory losses should be replaced with 5% dextrose in water.

The remaining fluid losses may be measured directly. These include urinary and nasogastric losses and losses from diarrhea. The electrolyte concentration of these fluids can also be measured. Thus the volume and electrolyte concentration of measurable fluid losses can be replaced on a milliliter for milliliter and milliequivalent for milliequivalent basis.

The patient who enters delirium tremens with relatively normal fluid and electrolyte balance will rarely need more than 6000 ml of fluid over 24 hours. Electrolyte requirements, however, may vary markedly. The clinician should remember that overestimation of insensible losses (skin, respiratory) may lead to overhydration with subsequent pulmonary edema and underestimation of insensible losses may result in blood volume depletion, vascular collapse and death.

Intensive Follow-up

There is no substitute for intensive follow-up of the patient in delirium tremens. Changes in consciousness and in fluid physiology may occur extremely rapidly, overwhelming the patient and leaving the physician impotent to influence the clinical course. A flow sheet to follow the levels of fluid intake and output, level of consciousness, and medicines given as well as various other measurements/statistics is extremely useful. Frequent reassessment of fluid status and sedation is also essential to a successful outcome.

Complications of Therapy

Vascular collapse is the most feared complication in delirium tremens. In those who do not exhibit any complicating illness, it constitutes the most common cause of death. In general, however, most of the complications that occur are related to therapy and not to the disease per se.[14] Oversedation represents a common complication. Respiratory depression may occur particularly with barbiturates and paraldehyde. Intensive nursing and medical care as well as judicious observation should help to prevent this complication from occurring. Aspiration pneumonia may occur as a result of vomiting. Vomiting may be due to gastritis and may be exacerbated by noxious oral agents such as paraldehyde. Fluid overload occurs when insensible losses are grossly overestimated or if the patient has previously unknown cardiac disease. Wernicke's syndrome may occur if a load of glucose is given without prior treatment with thiamine. Hepatic coma may complicate delirium tremens in the chronic alcoholic and pose a difficult therapeutic dilemma with regard to liver-metabolized sedatives. Finally, hypostatic pneumonia may develop in a sedated patient who is not turned periodically.

Prognosis

Despite medical advances, the mortality for delirium tremens continues to range from 5 to 15%. Tavel and others[14] have shown that pulmonary complications, underlying cardiac disease, volume depletion, severe liver disease, trauma, and malnutrition exert an adverse influence on prognosis. Fever in excess of 104° F also has been identified as a risk factor even in the absence of infection.

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The author acknowledges the advice and encouragement of Charles E. Mengel, M.D. in the development of this review.

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Botulinum Isn't Just a Poison Anymore

Botulinum Toxin in Treatment of Strabismus and Essential Blepharospasm

Gerhard W. Cibis, M.D. and Joanne Waeltermann, M.D.
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The use of botulinum injection as an alternative for the treatment of strabismus and blepharospasm, although still experimental, appears to be safe and often effective. Botulinum injections appear to be especially effective in treatment of benign essential blepharospasm and adds to the armamentarium of the stabismus surgery. Botulinum is not expected to eliminate traditional strabismus surgery, but to complement it.

In 1978, Dr. Allen Scott of the Smith-Ketterwell Research Institute in San Francisco reported the first clinical application of botulinum toxin (Oculinum®) injections in strabismus. Since that time over 1,000 strabismus patients have been treated by Dr. Scott and now by some 100 other authorized investigators including ourselves. Since Oculinum is still experimental, it is only available to physicians completing a course taught by Dr. Scott. Advantages of the procedure include the avoidance of hospitalization and general anesthesia in adults. In children, intramuscular ketamine is used. Repeated injections have been found to successfully stop the debilitating muscle spasms in case of benign essential blepharospasm.

Materials and Methods

The treatment consists of injecting the overacting eye muscle in a case of strabismus with minute doses of botulinum toxin. This results in temporary paralysis of that muscle and an increase in action of the previously weak muscle. A new deviation, opposite the one the patient had before, is then achieved. During the time of this temporary paralysis, the opposite muscle contracts. When the previously overacting muscle recovers function, some weeks to a few months after injection, the contraction of the opposing muscle has led to a lessening in the amount of strabismus.

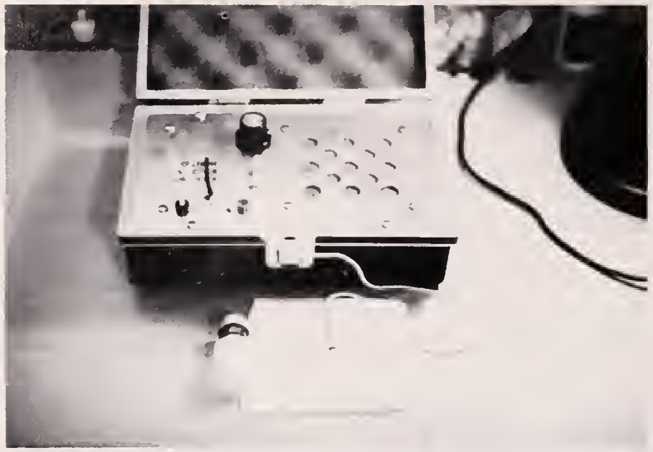

Figure 1. Equipment used for injection. Electromyograph needle and syringe with vial of frozen Botulinum toxin and EMG sound amplifier.

Strabismus is caused by either congenital or paralytic imbalance of the six striated muscles controlling eye movement. Under the experimental protocol designed by Dr. Scott and used by us, patients who would otherwise require surgery are given the option of surgery or participation in this experimental study. The procedure is carried out by anesthetizing the eye with topical agents and then inserting a lid speculum. A special electromyography needle (27 gauge) is used to enter the muscle through the conjunctiva. Muscular, electrical action potentials indicating proper positioning of the needle are heard via an amplifier. When the muscle is localized in this way a small amount of botulinum toxin (varying with patient age, weight and sex) is injected. A paralysis of the injected muscle ensues within days.

The toxin is quickly and highly bound to the muscle interfering with the release of acetylcholine from the nerve terminal. The calculated LD/50 for humans is 2.0 μg; the maximum amount in any vial of Oculinum is 40 times below this or 0.05 μg. The amount actually injected in any muscle is one-hundredth of this. The compound is kept frozen and is reconstituted with sterile water without preservative just prior to use. It is supplied only to authorized investigators who have taken a training course with Dr. Scott and who have approval from their hospital research review committees. This compound is very unstable and degrades quickly. Special precautions for handling and autoclaving of used syringes and vials are prescribed.

Results and Discussion

The disadvantages of this procedure compared to surgery are significant, but so are the benefits in the appropriate situation. More than one injection is generally needed since the paralytic effect wears off. Ultimately, with several injections, a permanent reduction in the strabismic position (angle of deviation) is obtained, although certainly not all patients achieve straight eyes. Scott[1] reports that in extraocular muscles, the injection causes adequate realignment of eyes in 40% of patients with one injection. The effect takes place within several days and is stable. The need for reinjection is 60% with an additional 40% of eyes aligned after the second injection.

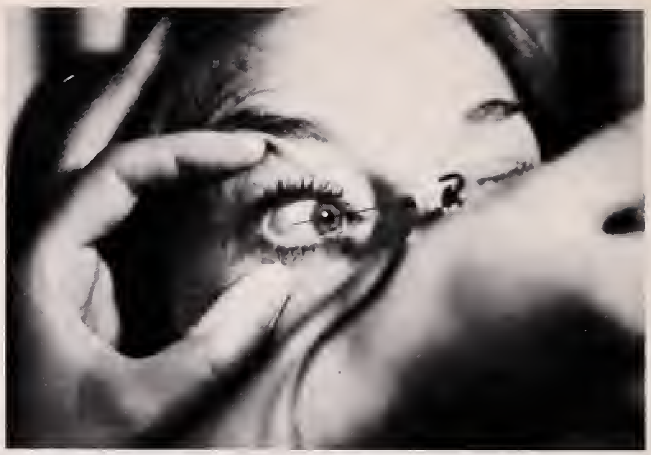

Figure 2. Strabismus patient receiving injection.

The advantages of the procedure include the fact that traditional surgery, general anesthesia and hospitalization are avoided. However, in children, the short acting ketamine anesthesia used in an outpatient setting is little different than conventional ocular surgery. Some adults who have had multiple procedures and are afraid to undergo surgery, or who are physically unable to do so, benefit the most from this approach.

Furthermore, certain clinical situations appear to be more appropriate than others. In acute strabismus from nerve trauma, botulinum injections can prevent secondary contractures while one waits for function to be restored in the traumatized muscle. Immediate under- or overcorrections after surgery can be "fine tuned" with injections to avoid further surgery.

Side effects of the injection are minor, as reported at this point. Occasional ptosis, which is always reversible, has been reported. During the period of paralysis, most patients experience double vision. No allergic reactions and only one permanent paralysis have been reported. Some patients prefer general anesthesia to having a needle inserted into their extraocular muscles, and an expected incidence of hemorrhage and ocular irritation from the trauma of the needle occurs. From the surgeons' viewpoint, a further problem is the difficulty in finding the muscle, especially with surrounding scar tissue in previously operated patients. This problem lessens with experience.

The area of greatest success for this technique, in our experience, is its beneficial effect in temporarily eliminating the debilitating lid spasm of benign essential blepharospasm. Blepharospasm is an idiopathic disorder characterized by facial muscle (especially the orbicularis) contraction and contortions. Adults with blepharospasm are disabled because of the lack of ability to keep their eyes open. Botulism toxin is injected into the orbicularis muscle without the need of anesthetic or electromyographic control. This procedure is reserved for patients not satisfactorially controlled by medications and whose only other treatment alternatives are potentially disfiguring: surgeries such as extirpation of the orbicularis muscle or the facial nerve.

For a period of six to 12 weeks, patients injected in the upper and lower eyelids experience relief of the involuntary lid closure and facial contortions. The blepharospasm returns but is again eliminated by a repeat injection. Our follow-up is short but others, such as Dr. Scott, claim that the time interval between repeated injections consistently increases until no further injections are needed. The reason for this is an eventual atrophy of the repeatedly injected orbicularis muscle. Approximately three to four injections are usually required.

The injection itself is painful but tolerable. Side effects are limited to mild bruising and temporary ptosis. Neurologically, the spastic discharges continue during the period of muscle paralysis. In one of our patients, this phenomenon resulted in no functional or visual improvement because the eyes continued to roll up under the lids in spite of resolution of the forced lid closure. This is called Bell's phenomenon and is more likely to occur in younger patients.

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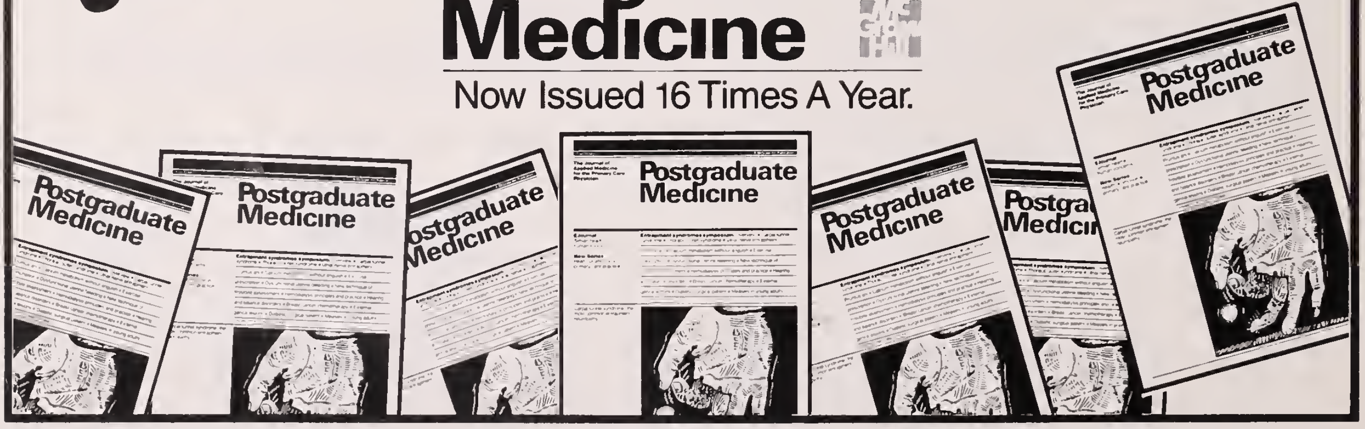

Establishing an MSMA Resident Physician Section and an MSMA Hospital Staff Section

At the 1984 Annual Convention of the Missouri State Medical Association, the House of Delegates adopted two resolutions, one to establish an MSMA Resident Physician Section and one to establish an MSMA Hospital Staff Section.

Below are the Constitution and Bylaw changes proposed by the Committee on Constitution and Bylaws. The changes will be voted upon by the full House of Delegates during the 127th MSMA Annual Convention, April 11-14 at the Kansas City Hyatt Regency.

Bracketed words are to be deleted. Underlined words are to be added.

I. Resident Physician Section

Bylaw Changes

Chapter I, Section 3. Resident [Junior] members shall be limited to those members of component societies who are serving a full-time postgraduate training program in a hospital approved by the American Medical Association and shall enjoy all of the privileges of active membership.

Chapter III, Section 4. The resident physician component medical society shall be entitled to send each year six delegates elected by the component society to the House of Delegates at the Annual Convention. Each delegate shall be a member in good standing with this Association and the component medical society. Such resident delegates shall enjoy all the rights and privileges of all other delegates. Remaining Sections to be renumbered.

Chapter IV, Section 7. Delegates from the resident physician component society shall combine and elect one Councilor and one Vice-Councilor. The duly elected Councilor and Vice-Councilor from the resident component society shall serve on an annual renewable basis. Remaining Sections to be renumbered.

Chapter VIII, Section 1 (a). The Annual Dues of this Association shall be $150 which shall be applicable to each active member of the Association beginning in 1985 and shall be levied per capita on the active members of the component societies; physicians leaving training programs and entering practice for the first time shall be assessed dues of $75 for the first calendar year and shall be Active members; the per capita levy for resident [junior] members shall be $10.00 per year; student members shall not be required to pay dues; honor members shall not be required to pay dues. Dues shall be payable on January 1 of the year for which they are levied.

Chapter VIII, Section 3. The House of Delegates may, when in its judgment the best interest of the Association demands, recommend an assessment on each active, resident [junior] and student member. Such assessment shall be levied only by consent of two thirds of the members of the House of Delegates present and voting. Funds obtained from such special assessment shall be allocated only for the purposes for which such assessment is levied and in accordance with substantiating budgets. Unexpended balances from such assessments must be reported to the House of Delegates for reallocation.

Chapter XI, Section 7. At some meeting in advance of the Annual Convention of this Association, each component society shall elect one or more delegates and an equal number of alternates to represent it in the House of Delegates of this Association, in accordance with Chapter III, Section 2, 3 [or 3] or 4, of these Bylaws. The secretary of each component society shall send a list of such delegates and alternates to the

Secretary of this Association at least sixty days before the Annual Convention. Representation in the House of Delegates shall be contingent on compliance with the foregoing provisions.

Constitutional Changes

Article V. The Council shall be the executive body of this Association when the House of Delegates is not in session. It shall consist of the President, President-Elect, Immediate Past-President, Secretary, Treasurer and the duly elected Councilors from each Councilor District, and a duly elected resident Councilor and medical student Councilor. A majority of voting members of the Council shall constitute a quorum.

Article VIII, Section 2. The Officers shall be elected annually. The term of Councilors and Vice-Councilors shall be two years, except for the duly elected resident Councilor and medical student Councilor who shall be elected for a one-year term. Half of the membership of the Council shall be elected each year. The Secretary and Treasurer shall be elected by the Council from the general membership. The Delegates from each Councilor District shall meet prior to the last day of the Annual Convention and elect the Councilors and Vice-Councilor from that district. The Delegates from the resident component society and medical school component societies shall meet prior to the last day of the Annual Convention and elect a resident Councilor and medical student Councilor and Vice-Councilor. In the event of death, resignation or removal of any Councilor, the Vice-Councilor shall automatically fill the vacancy. The Officers shall serve until their successors are elected and installed.

II. Hospital Staff Section

Bylaw Changes

Section 1. Membership. Membership in the section shall be limited to Missouri State Medical Association members selected by physician members of the medical staffs of hospitals in Missouri.

Section 2. Governing Council. There shall be a Governing Council of the Hospital Medical Staff Section to direct the programs and activities of the section, subject to the approval of the MSMA Council.

Section 3. Members. There shall be five voting members of the Governing Council, consisting of the officers, delegate and alternate delegate, elected at the business meeting of the section.

(a). Officers. The officers of the section shall have the following duties and responsibilities.

(b). Chairman. The Chairman shall preside at the business meetings of the section and at meetings of the Governing Council.

(c). Vice Chairman. The Vice Chairman shall assist the Chairman and preside in the absence of the Chairman or at his/her request.

(d). Secretary-Treasurer. The Secretary-Treasurer shall maintain such records and accounts as may be necessary or advisable for the conduct of the activities of the section.

(e). Delegate and Alternate Delegate. The Delegate and Alternate Delegate shall represent the members of the section in the MSMA House of Delegates.

Section 4. Term. Governing Council members, including the Delegate and Alternate Delegate, shall serve two-year terms, beginning at the conclusion of the Annual Convention at which they were elected.

Section 5. Vacancies. Any vacancy occurring on the Governing Council shall be filled at the next business meeting of the Section.

Section 6. Business Meeting. There shall be a business meeting of members of the section held prior to each Annual Meeting of the House of Delegates.

Section 7. Representatives to the Business Meeting. The physician members of the medical staff of each hospital may select a representative to the business meeting of the Hospital Medical Staff Section. The representative must be a MSMA member who is an active voting member of the medical staff with clinical privileges at the hospital.

Representatives to the business meeting shall be elected by and from the active voting members of the medical staff of each hospital.

Representatives to the business meeting shall be properly certified by the President or Secretary of the medical staff.

Only duly selected representatives to the Hospital Medical Staff Section shall have the right to vote at the business meeting of the section, but the meeting shall be open to any member of the MSMA. The meeting shall be conducted pursuant to rules of procedure adopted by the Governing Council of the section and approved by the MSMA Council.

Section 8. Purposes of the Business Meeting. The purpose of the business meeting shall be:

(a). To hear such reports as may be appropriate.

(b). To consider and vote upon such matters as may properly come before the meeting.

(c). To adopt resolutions for submission by the section to the House of Delegates of the MSMA.

(d). To elect at the business meeting prior to the Annual Convention of the MSMA House of Delegates a Chairman, Vice Chairman, Secretary-Treasurer, Delegate and Alternate Delegate.

(e). To conduct such other business as may properly come before the meeting.

Remaining Chapters to be renumbered.
No Constitution changes necessary. ■

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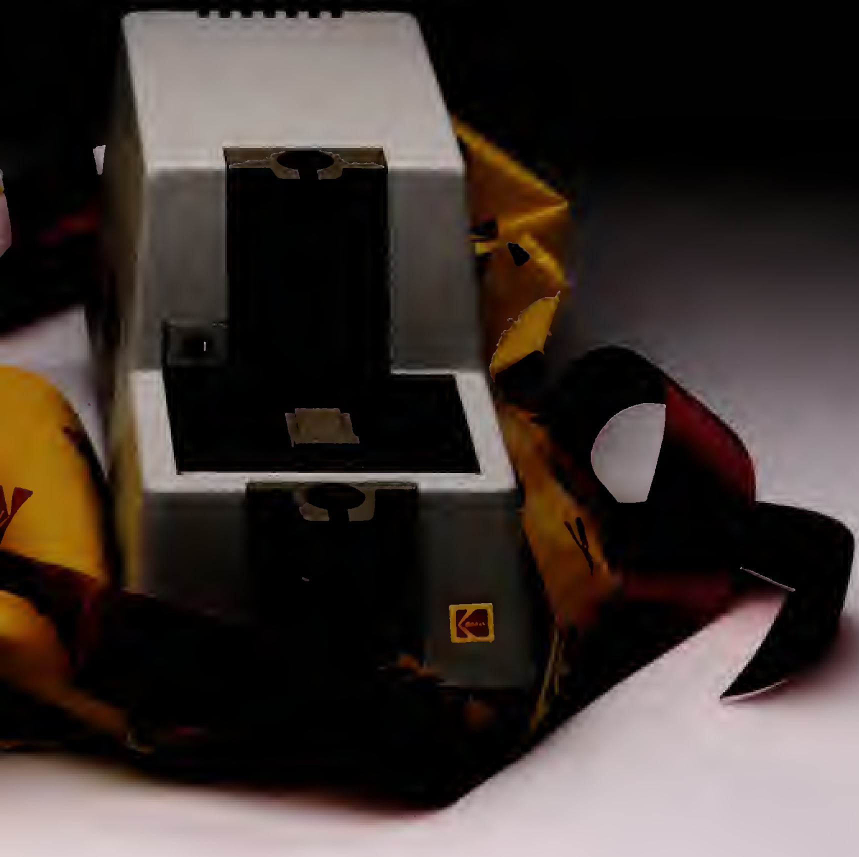

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Cephradine for Oral Suspension USP

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INDICATIONS AND USAGE: These preparations are indicated for the treatment of infections caused by susceptible strains of designated microorganisms as follows: Respiratory Tract Infections (e.g., tonsillitis, pharyngitis, and lobar pneumonia) due to *S. pneumoniae* (formerly *D. pneumoniae*) and group A beta-hemolytic streptococci [penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever; Velosef (Cephradine, Squibb) is generally effective in the eradication of streptococci from the nasopharynx; substantial data establishing the efficacy of Velosef in the subsequent prevention of rheumatic fever are not available at present]; Otitis Media due to group A beta-hemolytic streptococci, *H. influenzae*, staphylococci, and *S. pneumoniae*; Skin and Skin Structures Infections due to staphylococci and beta-hemolytic streptococci; Urinary Tract Infections, including prostatitis, due to *E. coli, P. mirabilis, Klebsiella* species, and enterococci (*S. faecalis*).

Note: Culture and susceptibility tests should be initiated prior to and during therapy.

CONTRAINDICATIONS: In patients with known hypersensitivity to the cephalosporin group of antibiotics.

WARNINGS: *Use cephalosporin derivatives with great caution in penicillin-sensitive patients since there is clinical and laboratory evidence of partial cross-allergenicity of the two groups of antibiotics; there are instances of reactions to both drug classes (including anaphylaxis after parenteral use).* In persons who have demonstrated some form of allergy, particularly to drugs, use antibiotics, including cephradine, cautiously and only when absolutely necessary.

Pseudomembranous colitis has been reported with the use of cephalosporins (and other broad spectrum antibiotics); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with antibiotic use. Treatment with broad spectrum antibiotics alters normal flora of the colon and may permit overgrowth of clostridia. Studies indicate a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis. Cholestyramine and colestipol resins have been shown to bind the toxin *in vitro*. Mild cases of colitis may respond to drug discontinuance alone. Manage moderate to severe cases with fluid, electrolyte and protein supplementation as indicated. Oral vancomycin is the treatment of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile* when the colitis is severe or is not relieved by drug discontinuance; consider other causes of colitis.

PRECAUTIONS: General: Follow patients carefully to detect any side effects or unusual manifestations of drug idiosyncrasy. If a hypersensitivity reaction occurs, discontinue the drug and treat the patient with the usual agents, e.g., pressor amines, antihistamines, or corticosteroids. Administer cephradine with caution in the presence of markedly impaired renal function. In patients with known or suspected renal impairment, make careful clinical observation and appropriate laboratory studies prior to and during therapy as cephradine accumulates in the serum and tissues. See package insert for information on treatment of patients with impaired renal function. Prescribe cephradine with caution in individuals with a history of gastrointestinal disease, particularly colitis. Prolonged use of antibiotics may promote the overgrowth of nonsusceptible organisms. Take appropriate measures should superinfection occur during therapy. Indicated surgical procedures should be performed in conjunction with antibiotic therapy.

Information for Patients: Caution diabetic patients that false results may occur with urine glucose tests (see PRECAUTIONS, Drug/Laboratory Test Interactions). Advise the patient to comply with the full course of therapy even if he begins to feel better and to take a missed dose as soon as possible. Tell the patient he may take this medication with food or milk since G.I. upset may be a factor in compliance with the dosage regimen. The patient should report current use of any medicines and should be cautioned not to take other medications unless the physician knows and approves of their use (see PRECAUTIONS, Drug Interactions).

Laboratory Tests: In patients with known or suspected renal impairment, it is advisable to monitor renal function.

Drug Interactions: When administered concurrently, the following drugs may interact with cephalosporins:

Other antibacterial agents — Bacteriostats may interfere with the bactericidal action of cephalosporins in acute infection; other agents, e.g., aminoglycosides, colistin, polymyxins, vancomycin, may increase the possibility of nephrotoxicity.

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Diuretics (potent "loop diuretics," e.g., furosemide and ethacrynic acid) — Enhanced possibility for renal toxicity.

Probenecid — Increased and prolonged blood levels of cephalosporins, resulting in increased risk of nephrotoxicity.

Drug/Laboratory Test Interactions: After treatment with cephradine, a false-positive reaction for glucose in the urine may occur with Benedict's solution, Fehling's solution, or with Clinitest® tablets, but not with enzyme-based tests such as Clinistix® and Tes-Tape®. False-positive Coombs test results may occur in newborns whose mothers received a cephalosporin prior to delivery. Cephalosporins have been reported to cause false-positive reactions in tests for urinary proteins which use sulfosalicylic acid, false elevations of urinary 17-ketosteroid values, and prolonged prothrombin times.

Carcinogenesis, Mutagenesis: Long-term studies in animals have not been performed to evaluate carcinogenic potential or mutagenesis.

Pregnancy Category B: Reproduction studies have been performed in mice and rats at doses up to 4 times the maximum indicated human dose and have revealed no evidence of impaired fertility or harm to the fetus due to cephradine. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

Nursing Mothers: Since cephradine is excreted in breast milk during lactation, exercise caution when administering cephradine to a nursing woman.

Pediatric Use: Adequate information is unavailable on the efficacy of b.i.d. regimens in children under nine months of age.

ADVERSE REACTIONS: Untoward reactions are limited essentially to G.I. disturbances and, on occasion, to hypersensitivity phenomena. The latter are more likely to occur in persons who have previously demonstrated hypersensitivity and those with a history of allergy, asthma, hay fever, or urticaria.

The following adverse reactions have been reported following use of cephradine: G.I. — Symptoms of pseudomembranous colitis can appear during antibiotic therapy; nausea and vomiting have been reported rarely. Skin and Hypersensitivity Reactions — mild urticaria or skin rash, pruritus, joint pains. Hematologic — mild transient eosinophilia, leukopenia and neutropenia. Liver — transient mild rise of SGOT, SGPT, and total bilirubin with no evidence of hepatocellular damage. Renal — transitory rises in BUN have been observed in some patients treated with cephalosporins; their frequency increases in patients over 50 years old. In adults for whom serum creatinine determinations were performed, the rise in BUN was not accompanied by a rise in serum creatinine. Others — dizziness, tightness in the chest, and candidal vaginitis.

DOSAGE: Adults — For respiratory tract infections (other than lobar pneumonia) and skin and skin structure infections: 250 mg q. 6 h or 500 mg q. 12 h. For lobar pneumonia: 500 mg q. 6 h or 1 g q. 12 h. For uncomplicated urinary tract infections: 500 mg q. 12 h; for more serious UTI, including prostatitis, 500 mg q. 6 h or 1 g q. 12 h. Severe or chronic infections may require larger doses (up to 1 g q. 6 h). For dosage recommendations in patients with impaired renal function, consult package insert.

Children over 9 months of age — 25 to 50 mg/kg/day in equally divided doses q. 6 or 12 h. For otitis media due to *H. influenzae*: 75 to 100 mg/kg/day in equally divided doses q. 6 or 12 h but not to exceed 4 g/day. Dosage for children should not exceed dosage recommended for adults. There are no adequate data available on efficacy of b.i.d. regimens in children under 9 months of age.

For full prescribing information, consult package insert.

HOW SUPPLIED: 250 mg and 500 mg capsules in bottles of 24 and 100 and Unimatic® unit-dose packs of 100. 125 mg and 250 mg for oral suspension in bottles of 100 ml and 200 ml.

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Medical School News

The University of Missouri-Columbia

■ **J. Chandler Smith, M.D.**, chairman of the Department of Pathology at Truman Medical Center and a professor at UMKC School of Medicine since 1974, has announced his plans to retire this spring. TMC's head of Emergency Health Services, **Kendall McNabney, M.D.**, is heading the search committee for Dr. Smith's replacement.

■ The governing council of Alpha Omega Alpha has recently announced the granting of a charter to the UMKC School of Medicine for a new chapter to be known as Delta of Missouri. Fifteen senior students have been nominated as charter members in the honor society. An installation ceremony for members was held last month.

Charter members are: **Kevin Blinder; Alan Braverman; Jay Brown; David Diemer; Mike Funderburk; Paul Griggs; David Kardesch; Pascale Lane; James Liu; Dwight Look; Patricia McGuire; Michelle Pal; Kevin Pope; Eric Sieck;** and **Mary Lee Vogelsang.**

■ Two new docents have accepted positions at the School of Medicine. **Gary Salzman, M.D.**, currently is a Pulmonary Fellow at Truman Medical Center and a 1980 graduate of the School of Medicine, will begin his duties as docent this summer. Dr. Salzman did his residency in internal medicine at Wake Forest University at North Carolina Baptist Hospital and Bowman Gray School of Medicine.

Also planning to begin his duties as docent this summer is **David Bamberger, M.D.** Dr. Bamberger received his medical degree from Baylor College of Medicine in Houston, Texas in 1979. He completed both his residency and a fellowship in infectious diseases at the University of Minnesota Hospitals in Minneapolis.

■ **Arnold Brown, M.D.**, dean of the University of Wisconsin-Madison School of Medicine, was the St. Louis Friends of the UMKC School of Medicine annual lecturer. Dr. Brown, who also is chairman of the Council of Deans spoke on "Medical Education in Transit."

■ Well-known gastroenterologist **Richard G. Farmer, M.D.**, of the Cleveland Clinic spoke last month on "Factors in the Long-term Progress for Inflammatory Bowel Disease."

■ UMKC School of Medicine's first Edgar Snow professor of medicine, **Xu Jia Yu, M.D.**, completed a five-day return visit to UMKC in January. He is dean of the First Faculty of Medicine at Shanghai Second Medical College and director of the Rui Chin Hospital.

St. Louis University

■ The National Institute of General Medical Sciences has awarded a four-year, $806,923 grant to **William A. Sly, M.D.**, professor and chairman of the Edward A. Doisy Department of Biochemistry at the School of Medicine.

Dr. Sly's project, "Receptor Mediated Transport of Lysosomal Enzymes," is designed to further explore the mechanisms by which cells target lysosomal enzymes to specific sites inside the cell.

Dr. Sly's work deals with discovering the normal targeting signals which enable the cell to direct enzymes to specific sites. Understanding this natural system for sorting and targeting lysosomal enzymes to their proper destination may provide clues to deliver these enzymes to specific sites in patients who need them.

Dr. Sly joined the faculty at St. Louis University School of Medicine after serving 20 years on the faculty of Washington University School of Medicine. He has served on the NIH Genetics Study Section, the NIH Genetic Basis of Disease Study Section and the Human Cell Biology Steering Committee for the National Science Foundation. Currently he serves on the editorial boards of the *Journal of Biological Chemistry*, the *American Journal of Human Genetics* and the *Journal of Cell Biology*. He is on the Board of Scientific Counselors for the National Institutes of Arthritis and Metabolic Diseases; the Board of Directors of the American Society of Human Genetics and the Fellowship Review Committee for the Arthritis Foundation.

■ The second annual J. Gerard Mudd Lecture, commemorating Dr. Mudd's contribution in establishing the cardiac catheterization laboratory at St. Louis University Medical Center, featured **William C. Roberts, M.D.**, chief of the pathology branch of the National Heart, Lung and Blood Institute.

Dr. Roberts spoke on "Coronary Heart Disease: The Quantitative Approach and Its Clinical Usefulness." In addition to his position at the National Institutes of Health, he is clinical professor of pathology and medicine at Georgetown University in Washington, D.C. and editor-in-chief of the *American Journal of Cardiology*.

Dr. Mudd, associate director of the cardiac catheterization laboratory at the Medical Center and professor of internal medicine at the School of Medicine, introduced cardiac catheterization to the Medical Center in 1951. Under his direction, the cardiac catheterization unit has progressed and currently performs more than 2,700 procedures each year, leading all other St. Louis area hospitals.

■ **Allyn C. Howlett, Ph.D.**, assistant professor of pharmacology, was awarded a $147,360 grant from the National Institute of Drug Abuse to study the function of Delta 9-THC, the main psychoactive compound found in marijuana.

Studies by other investigators have concentrated mainly on the behavioral effects of marijuana in animals. Dr. Howlett is examining the effects of these drugs in living neurons grown in an incubator. In the brain cells, Delta 9-THC inhibits the production of cyclic AMP, acting as a messenger inside the cells to control the activity of crucial enzymes and modifying the way the neurons work. It is expected that this reasearch will explain how marijuana effects the neurons in the human brain to modify behavior.

Washington University

- By a gift of $1 million, The Kroc Foundation of Santa Barbara, Calif., has established a chair to support biomedical research in diabetes and endocrine diseases at Washington University School of Medicine in St. Louis.

The late Ray A. Kroc, founder of McDonald's Corporation and later founder and sole benefactor of The Kroc Foundation, is responsible for funding the chair at Washington University. The endowment is named for his brother, **Dr. Robert Kroc,** in recognition of his accomplishments as a university teacher, pharmaceutical researcher, and developer and President of the Kroc Foundation's research grants and conference programs.

The first Robert L. Kroc Professor will be **Paul E. Lacy, M.D., Ph.D.** Dr. Lacy, head of the Department of Pathology for more than 20 years, stepped down from the position earlier this year to concentrate full time on the research for which he is recognized worldwide. One of his most important achievements is his success in controlling diabetes by transplanting Islets of Langerhans, which are clusters of insulin-producing pancreas cells. Lacy is credited with significantly advancing immunology, organ transplantation, and the search for better diabetes treatments.

Dr. Lacy commented upon a key source of his research support: "The success of our research program on islet transplantation can be attributed to the faith, trust and financial support that has been provided to us by the Kroc Foundation for many years. This critical support has made it possible for us to bring islet transplantation to the threshold of human application in diabetes. Thus it is a great privilege and honor for me to be named the first Robert L. Kroc Professor in recognition of two remarkable individuals — Mr. Ray Kroc and Dr. Robert Kroc."

The Kroc Professorship in diabetes and endocrine diseases is the first of three research chairs to be established by the Kroc Foundation. Since 1969, the foundation has provided research support totaling more than $46 million to institutions in this country and abroad. In addition, it has sponsored more than 100 research conferences.

Over the years, Washington University has received Kroc Foundation grants totaling about $2.5 million.

- **Michel M. Ter-Pogossian, Ph.D.,** director of the division of radiation sciences at Mallinckrodt Institute of Radiology and professor of radiation sciences in radiology and biophysics in physiology at Washington University Medical Center, has received the distinguished Herrman L. Blumgart Pioneer Lecture Award.

Dr. Ter-Pogossian, a renowned physicist and nuclear scientist, is recognized for his key role in the introduction and use of radioisotopes (radioactive substances) for biomedical research and also in the development of PET (positron emission tomography) scanners, which plot the path of these radioactive substances in living tissue. His contributions have enabled the study of biochemical processes occurring in the body, including the metabolism, circulation, and permeability of the brain.

University of Missouri-Kansas City

- The Department of Anatomy has opened its new electron microscope facility for service work for the rest of the medical school and campus. Faculty may use the center's scanning electron microscopy and transmission electron microscopy capabilities for their research. "The department has invested more than $200,000 for the equipment," says **Debbie Sherman,** research assistant in charge of the facility.

- **Peter Konig, M.D.,** professor and director of pulmonary diseases in the Department of Child Health, was an invited speaker at the 11th World Congress of Asthmology in Mexico City. He spoke on "Prevention of Exercise-induced Asthma with Fenoterol" and "Usefulness of Fenoterol in Acute Severe Asthma Attacks."

- **Margaret Flynn, Ph.D.,** professor of family and community medicine, has been selected chairman of the American Society for Clinical Nutrition Commitee of Nutrition Research.

- **Brent M. Parker, M.D.,** professor and director of the division of cardiology in the Department of Medicine, made three presentations dealing with preventive cardiology at a symposium on preventive cardiology and primary care at the Lake of the Ozarks. He also has developed three tape recordings, two on preventive cardiology and one on mitral valve prolapse, for Practical Reviews in Cardiology, an educational tape series.

- **Greg Flaker, M.D.,** and **Martin Alpert, M.D.,** assistant professors of medicine, were senior authors on papers presented at the American Heart Association meeting in Miami.

- **Karl Nolph, M.D.,** director of the division of nephrology in the Department of Medicine, was an invited guest lecturer at a meeting of Latin American Nephrologists in Miami.

He also was guest lecturer and panelist at the 24th annual Scientific Symposium on Kidney Disease in Los Angeles sponsored by the National Kidney Foundation of Southern California.

- **Dr. Saroj Jayendra Shah** joined the Department of Physical Medicine and Rehabilitation as an assistant professor in December. She was affiliated with St. Anne's Hospital in Chicago.

- **Agnes Moon, M.D.,** associate professor of physical medicine and rehabilitation, gave a paper on "Cold Water Immersion for the Edematous Hand in Stroke Patients" at the annual meeting of the American Congress of Rehabilitation Medicine in Boston in October. She and **Alexander Lising, M.D.,** clinical assistant professor, talked about "F-Wave Study in a Patient with Post-Traumatic Syringomyelia" at the annual meeting of the American Academy of Physical Medicine and Rehabilitation in Boston.

- **Joseph T. Walls, M.D.,** assistant professor of surgery, **Zuhdi Lababidi, M.D.,** professor of child health, and **Jack Curtis, M.D.,** chief of the division of cardiothoracic surgery, presented a paper on "Percutaneous Balloon Pulmonary Valvuloplasty: Surgical Assessment" at the Michael E. DeBakey International Surgical Society meeting in Monte Carlo, Monaco.

- **Carl J. Marienfeld, M.D.,** the founder and first chair of the Department of Family and Community Medicine at the University of Missouri-Columbia (UMC) School of Medicine, died Sunday, Jan. 6, 1985 at his home near Ashland, Missouri. He was 67.

Dr. Marienfeld came to UMC in 1961 and established the Department of Community Health and Medical Practice, serving as chair and professor. From 1968 until his retirement in 1983, he served as director of the University's Environmental Health Surveillance Center.

His most important research was in the prevalence of diseases in specific populations and the effects of elements in the environment on those populations.

Dr. Marienfeld was nationally recognized for his work in public health programs and preventive medicine.

■ **Bernard D. Beitman, M.D.**, associate professor of psychiatry at the UMC School of Medicine, is the author of a recently published book, *Combining Psychotherapy and Drug Therapy in Clinical Practice,* published by SP Medical and Scientific Books, New York. The book is co-authored by **Dr. Gerald L. Klerman** of Harvard University.

Dr. Beitman joined the UMC faculty Jan. 1, 1985. He previously served on the faculty at the University of Washington School of Medicine in Seattle. A graduate of Swarthmore College and Yale Medical School, he received his psychiatric training at Stanford University.

■ **Armando R. Favazza, M.D.**, professor of psychiatry at the UMC School of Medicine, presented a lecture on "Self-Mutilation in Culture and Psychiatry" at the University of Florence, Italy, where he served as visiting professor.

While in Italy, Dr. Favazza also gave a paper on "Christian Healing of Mental Illness" at a World Psychiatric Association meeting in Rome.

He is the author of the chapter on "Anthropology and Psychiatry" in the fifth edition of the *Comprehensive Textbook of Psychiatry,* the definitive book in the field and published by Williams and Wilkins, Baltimore. Dr. Favazza also wrote a chapter on "Psychosocial Networks in Alcoholism" in *Psychosocial Treatment of Alcoholism,* published by the APA Press, Washington, DC.

■ **Bruce E. Harry, M.D.**, assistant professor of psychiatry at the UMC School of Medicine and adjunct assistant professor of law, presented a paper on "Managing Offenders Who Are Deaf" at a conference sponsored by State Mental Health Forensic Directors in Boston.

Also participating in the meeting was **Karl Menninger II, J.D.**, adjunct assistant professor of psychiatry at UMC and director of Forensic Services for the Missouri Department of Mental Health. Professor Menninger chaired sessions on "Operational Models," "Recent Legal Developments Affecting Forensic Mental Health Services" and "Litigation, Change and Forensic Services." ■

Physician's Recognition Awards

Thirty-two MSMA members qualified for the MSMA-AMA Physician's Recognition Award during December 1984.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Audrain

Leonard L. Davis, *Mexico*

Boone

Robert P. Stoy, *Columbia*

Buchanan

Donald E. Heins, *St. Joseph*
Jerold E. Lancourt, *St. Joseph*

Butler-Wayne-Ripley-Carter

Vehbi N. Baskurt, *Poplar Bluff*

Cape Girardeau

Mark C. Kasten, *Cape Girardeau*
Donald R. Reimer, *Cape Girardeau*
Robert D. Velander, *Cape Girardeau*

Clay-Platte

Theodore F. Edwards, *Kansas City*

Grand River

Albert D. Cross, *Trenton*

Greene

Charles J. Ash, *Springfield*
Diana J. Spade, *Springfield*

Jackson

Robert H. Durie, *Kansas City*
Lawrence L. Hyde, *Kansas City*
Donald A. Potts, *Independence*

Johnson

Albert L. Folkner, *Warrensburg*

Northeast

George P. Kerkemeyer, *Hannibal*

Mid-Missouri

Edward R. Jenkins, *Waynesville*

SEMO

Aziz O. Mahboubi, *Sikeston*

St. Louis

David W. Brigham, *Ballwin*
James M. Epstein, *St. Louis*
Richard H. Fallon, *St. Louis*
Anton F. Heusler, *Bridgeton*
Sumer C. Jain, *St. Louis*
Scott A. Martin, *St. Louis*
Sam J. Merenda, *St. Louis*
Benjamin Milder, *St. Louis*
Charles Miller, *Kirkwood*
Wilbur A. Mullarky, *St. Ann*
Donald R. Richardson, *St. Louis*
Ronald N. Riner, *St. Louis*
Frederick R. Zivnuska, *St. Louis*

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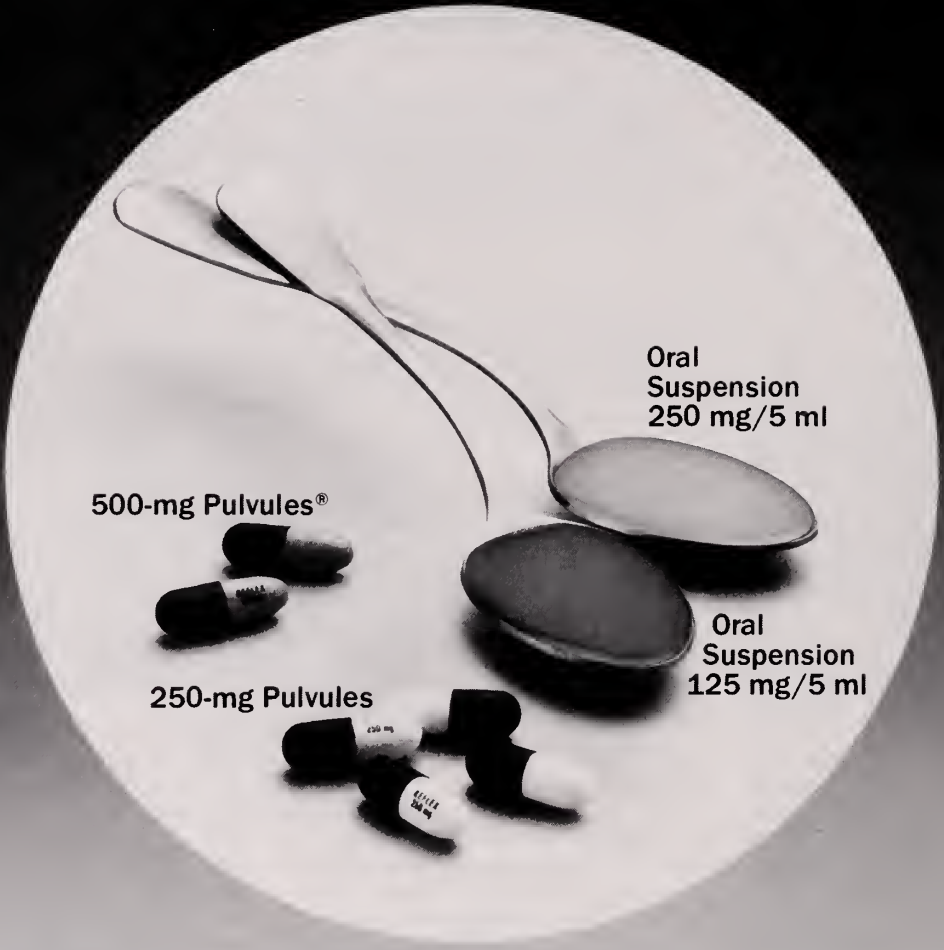

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Continuing Medical Education

The continuing medical education accreditation program of the MSMA has full approval by the AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. Please remember to include the name of the individual who can be contacted at your institution for additional information about your CME events.

March

9 **Industrial Injuries of the Hand** — Washington University. Contact: Loretta Giacoleto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3843.

9 **Second Annual Missouri Conference on Anorexia and Bulmia.** Contact: Weldon Webb, Director, CME, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

9 **Management of Angina Pectoris; Management of Hypertension; Investment in Real Estate** — West Plains Memorial Hospital. Contact: Morris Antebi, M.D., West Plains Memorial Hospital, 1103 Alaska Avenue, 417-256-9111.

11 **City-Wide Radiology Conference on "Interventional Radiology"** — St. Louis University. Contact: Ronald G. Evens, M.D., Director, The Edward Mallinckrodt Institute of Radiology, Washington University School of Medicine, 510 S. Kingshighway, St. Louis 63110. 314-362-7100.

14 **Quarterly Tumor Board Meeting:** Presentation and discussion of eight cases involving cancer. Contact: Janice Gentile, Ellis Fischel State Cancer Center, 115 Business Loop 70 West, Columbia 65201. 314-875-2100, extension 398.

14-15 **Current Management in Critical Care** — Kansas City Alameda Plaza Hotel. Contact: Alta Bingham, CME, UMKC School of Medicine, Kansas City Southwest Clinical Society, 2220 Holmes St., Kansas City 64108. 816-276-1339.

14-16 **Right to Health Care Conference.** Contact: Weldon Webb, Director, CME, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

14-23 **Traveling Medical Education Course** — Maui, Hawaii. Contact: Alta Bingham, CME, UMKC School of Medicine, Kansas City Southwest Clinical Society, 2220 Holmes St., Kansas City 64108. 816-276-1339.

16-23 **Traveling Medical Education Course** — Copper Mountain, Colo. Contact: Alta Bingham, CME, UMKC School of Medicine, Kansas City Southwest Clinical Society, 2220 Holmes St., Kansas City 64108. 816-276-1339.

18-20 **Curable Cancers in Humans** — Washington University. Contact: Loretta Giacoletto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

20 **Care of the High Risk Neonate: The Role of the Primary Physician** — St. Louis Breckenridge Inn, Frontenac Plaza. Contact: Vicki Shipp, Cardinal Glennon Memorial Hospital, 314-577-5642.

20-21 **Advanced Cardiac Life Support** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

25-26 **Rehabilitation Medicine:** Office Management of Musculoskeletal Pain Syndrome — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

26 **Neurological Disorders in Clinical Practice** — Joplin. Contact: Joy W. Barnett, CME Coordinator, Freeman Hospital, 1102 West 32nd St., Joplin 64801. 417-623-2801.

27-28 **Eighth Annual Primary Pediatrics for the Primary Physician.** Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

29 **Inflammatory Bowel Disease** — St. Louis University. Contact: Loretta Giacoletto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

April

1-2 **31st Annual Urology Seminar** — Kansas City Westin Crown Center. Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

4-5 **Third Annual Missouri Conference on Alcoholism.** Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

8 **Leroy Sante Lecture** — St. Louis University. Contact: Ronald G. Evens, M.D., Director, The Edward Mallinckrodt Institute of Radiology, Washington University School of Medicine, 510 S. Kingshighway, St. Louis 63110. 314-362-7100.

8-9 **Neurosurgical Symposium: Modern Dissection Techniques of Bone Biometals and Bioplastics** — St. Louis University Learning Resources Center. Contact: Anita Herbst, CME, St. Louis University School of Medicine, 314-664-9800, extension 167.

10 **Microneurosurgery at the Base of the Brain** — St. Louis University Learning Resources Center. Contact: Rona Seda, Microsurgery and Brain Research Institute, 314-352-3303.

11-12 **Care of the Aging Patient** — Washington University. Contact: Loretta Giacoletto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

12-13 **American Society for Microbiology, Missouri Branch.** Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

12-13 **Communicating with Children (Hearing and Speech)** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

19-20 **The Long Weekend** — Kansas City Alameda Plaza Hotel. Contact: Alta Bingham, CME, UMKC School of Medicine, Kansas City Southwest Clinical Society, 2220 Holmes St., Kansas City 64108. 816-276-1339.

19-21 **35th Annual Symposium on Anesthesiology** — Westin Crown Center Hotel. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480

20 **Comprehensive Care for Cleft Lip and Palate** — Washington University. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis 63110. 314-362-6893

24 **Regional Conference on Psychiatric/Mental Health:** Trends and Issues in the Management of Care — St. Louis Chase Hotel. Contact: Anita Herbst, CME, St. Louis University, 314-664-9800, extension 167.

24-25 **11th Annual Family Practice Symposium** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

25-26 **12th Annual Postgraduate Course in OB/GYN** — Washington University. Contact: Loretta Giacoletto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis, 63110. 314-454-3853.

26 **29th Annual Symposium on Infectious Disease** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103.

26-27 **Fourth Annual Clinical Conference on Arthritis.** Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

26-27 **Infection Control** — St. Louis. Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

27 **Ophthalmology Conference.** Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

27 **Annual Pathology Symposium** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

30 **Samuel E. Roberts Nutrition Program: Minerals in Human Nutrition:** *Clinical Application* — University of Kansas Medical Center. Contact: Ida Tilden, Academy of Health Professions, 2920 McGee Trafficway, Kansas City 64108. 816-531-4559.

May

1 **What's New in Diabetes Treatment?** University of Kansas. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

2 **Diabetes for Physicians** — University of Kansas. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

9-10 **Technological Advances in Respiratory Care** — University of Kansas. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

10-11 **Breast Cancer: Diagnosis and Treatment** — Washington University. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314-362-6893.

10-11 **Cancer Update '85 Spring Symposium: Breast Cancer Update** — Ellis Fischel State Cancer Center. Contact: Janice Gentile, Ellis Fischel State Cancer Center, 115 Business Loop 70 West, Columbia 65201. 314-875-2100.

10-12 **Eighth Annual Missouri Cardiovascular Conference** — Tan-Tar-A, Osage Beach. Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

13-14 **PNP Update** — Washington University School of Medicine. Contact: Loretta Giacoletto, CME Washington University School of Medicine, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

17 **Kansas Medicine: Ten Years Later** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

18 **Clinical Aspects & Therapeutic Principles of Alzheimer's & Parkinson's Diseases** — Washington University. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314-362-6893.

21-22 **Advanced Cardiac Life Support** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

23-24 **The Child with Chronic Disease** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

30-31 **Advanced Trauma Life Support** — University of Kansas Medical Center. Contact: Jody Scott, Department of Surgery, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-6124.

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In Memoriam

■ **Howard W. Stamm, M.D.**, 1989 Flint Ave., San Jose, Ca. 95148; graduate of Indiana University, 1970; member of Buchanan County Medical Society; age 41; died Nov. 23, 1984.

■ **Bernhardt W. Klippel, M.D.**, 52 Fair Oaks, St. Louis 63124; graduate of Washington University, 1912; member of St. Louis Metropolitan Medical Society; age 92; died Dec. 12, 1984.

■ **W. F. Melick, M.D.**, 302 Planthurst Dr., St. Louis 63119; graduate of Washington University, 1939; member of St. Louis Metropolitan Medical Society; age 70; died Dec. 15, 1984.

■ **Henry M. Hardwicke, M.D.**, Ashland 65010; graduate of University of Rochester, 1943; member of Boone County Medical Society; age 77; died Dec. 23, 1984.

■ **Peter G. Danis, M.D.**, 19 Conway Lane, St. Louis 63124; graduate of St. Louis University, 1931; member of St. Louis Metropolitan Medical Society; age 75; died Jan. 6, 1985.

■ **Carl J. Marienfeld, M.D.**, Rt. 1, Box 182, Ashland 65010; graduate of the University of Illinois, 1943; member of Boone County Medical Society; age 67; died Jan. 6, 1985.

■ **Royal C. McLean, M.D.**, 520 W. Jewel, St. Louis 63122; graduate of St. Louis University, 1932; member of St. Louis Metropolitan Medical Society; age 82; died Jan. 7, 1985.

■ **Karl J. Leidinger, M.D.**, P. O. Drawer Y, Republic 65738; graduate of the University of Arkansas, 1945; member of Greene County Medical Society; age 64; died Jan. 21, 1985.

Impaired Physician Hotline
314-636-5744

Letters *(Continued from page 122)*

without the benefit of top state health professional guidance, frequently duplicating each other with the ultimate development of intramural competition and conflict.

Further aggravating the situation has been the disaggregation of environmental health in many states into departments of environment or natural resources, following the lead of the federal government when it formed EPA. These separate environmental entities, cut off from their public health rationale and guidance, have a trail of uninformed and inept decision making. In fact, those departments often attempt to duplicate the epidemiological and health capability of health departments, which belies the very rationale of the original split.

The reasons for forming omnibus departments have not been realized, having been generally illusory. The problems resulting from that organizational structure have harmed the state's high priority responsibility for protecting and promoting the health of the citizenry. Simultaneously, they have contributed to diffusion and a lack of focus for health and health policy.

The federal government is returning major health programs and monies to the states. Missouri needs a cabinet-level position to effectively administer and coordinate these new responsibilities. Consequently, we recommend the return to a cabinet-level post for thealth in the State of Missouri.

Richard M. Biery, M.D., M.S.P.H.
Kansas City
Mohammad N. Akhter, M.D., M.P.H.
Jefferson City

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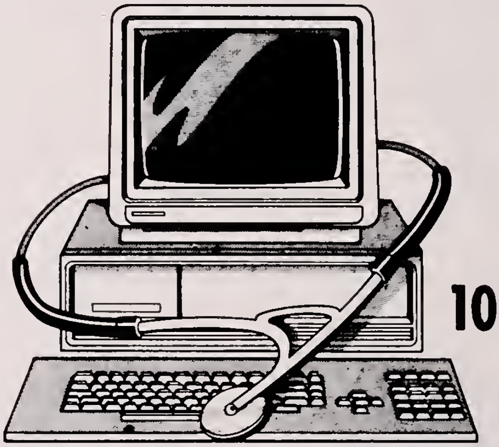

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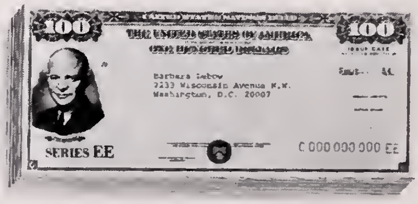

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New Members

■ **Ebrahim Amanat, M.D.,** 1541 Cervlean Dr., St. Louis 63146, has become a member of the St. Louis Metropolitan Medical Society. Dr. Amanat received his preliminary education at Teheran University and his medical degree at Teheran University in 1960. He completed his residency training at the Philadelphia State Hospital in Philadelphia, Pa. Dr. Amanat specializes in psychiatry.

■ **Michael D. Ball, D.O.,** 405 N. Main, Mountain Grove 65711, has become a member of the South Central Medical Society. Dr. Ball received his preliminary education at Northeast Missouri State University and his osteopathic degree at Kirksville College of Osteopathic Medicine in 1980. He completed his internship at the Osteopathic Hospital of Wichita in Wichita, Kan. Dr. Ball specializes in general practice.

■ **Robert P. Ferrara, M.D.,** 912 Parkwatch, St. Louis 63011, has become a member of the St. Louis Metropolitan Medical Society. Dr. Ferrara received his baccalaureate and medical degree from the University of Missouri-Kansas City in 1979. He completed his residency training at St. John's Mercy Medical Center in St. Louis. Dr. Ferrara specializes in internal medicine.

■ **Jeryl G. Fullen, M.D.,** 1718 S. Ingram, Sedalia 65301, has become a member of the Pettis County Medical Society. Dr. Fullen received his preliminary education at the University of Arkansas and his medical degree at the University of Arkansas in 1968. He completed his residency training at the Greater Kansas City Affiliated Hospital in Kansas City, Mo. He specializes in orthopedic surgery.

■ **Robert W. George, M.D.,** 240 Richardson Ave., Puxico 63960, has become a member of the Butler-Wayne-Ripley-Carter County Medical Society. Dr. George received his preliminary education at Logan Chiropractic College and his medical degree at the American University of the Caribbean in 1981. He completed his internship at the Deaconess Hospital in St. Louis, Mo. He specializes in general practice.

■ **Michael I. Gruenebaum, M.D.,** 9150 E. 41st, Kansas City 64133, has become a member of the Jackson County Medical Society. Dr. Gruenebaum received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1978. He completed his residency training at the Mayo Clinic and Methodist Hospital in Rochester, Minn. He specializes in internal medicine.

■ **Brian L. Gwartz, M.D.,** Highway 61-67, Crystal City 63019, has become a member of the Jefferson County Medical Society. Dr. Gwartz received his preliminary education at the University of California-Los Angeles and his medical degree at the University of Illinois in 1981. He completed his residency training at the University of Texas in Houston, Texas. Dr. Gwartz specializes in anesthesiology.

■ **Edward F. Higgins, Jr., M.D.,** Suite T-503, 6420 Prospect, Kansas City 64132, has become a member of the Jackson County Medical Society. Dr. Higgins received his preliminary education at St. Lawrence University and his medical degree at Upstate Medical Center in 1978. He completed his residency training at the New Haven Hospital, New Haven, Conn. Dr. Higgins specializes in cardiovascular surgery.

■ **Richard T. Honderick, D.O.,** 1525 N. Campbell, Springfield 65803, has become a member of the Greene County Medical Society. Dr. Honderick received his preliminary education at Evangel College and his osteopathic degree at Philadelphia College of Osteopathic Medicine in 1975. He completed his residency training at the University of Miami in Miami, Fla. Dr. Honderick specializes in family practice.

■ **Phillip M. Hornbostel, M.D.,** 1718 S. Ingram, Sedalia 65301, has become a member of the Pettis County Medical Society. Dr. Hornbostel received his preliminary education at Northwestern University and his medical degree at the University of Southern California in 1979. He completed his residency training at the Truman Medical Center in Kansas City, Mo. Dr. Hornbostel specializes in general surgery.

■ **Lawrence M. Lewis, M.D.,** 1325 S. Grand, St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. Dr. Lewis received his preliminary education at the University of Florida and his medical degree at the University of Miami in 1976. He completed his residency training at Jewish Hospital in St. Louis. Dr. Lewis specializes in internal medicine.

■ **Stephen B. Lillard, D.O.** #6 Jungermann Circle, St. Peters 63376, has become a member of the St. Charles-Lincoln County Medical Society. Dr. Lillard received his preliminary education at the University of Missouri-Columbia and his osteopathic degree at the University of Health Sciences in Kansas City in 1970. He completed his residency training at the Kansas City General Hospital in Kansas City, Mo. Dr. Lillard specializes in internal medicine.

■ **Samuel E. Logan, M.D.,** 4949 Barnes Hospital Plaza, Suite 17424, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Logan received his preliminary education at the California Institute of Technology and his medical degree at the University of California-Los Angeles in 1976. He completed his residency training at the University of California-San Francisco. Dr. Logan specializes in general surgery and plastic surgery.

■ **Paul D. Morehouse, M.D.,** 107 Oak, Poplar Bluff 63901, has become a member of the Butler-Wayne-Ripley-Carter County Medical Society. Dr. Morehouse received his preliminary education at the University of Kansas and his medical degree at the University of Kansas in 1978. He completed his residency training at the University of Kansas in Lawrence, Kan. Dr. Morehouse specializes in general surgery.

■ **Richard S. Murray, M.D.,** 2850 W. Clay, St. Charles 63301, has become a member of the St. Charles-Lincoln County Medical Society. Dr. Murray received his preliminary education at Knox College and his medical degree at Rush Medical College in 1980. He completed his residency training at the University of Minnesota Hospitals in Minneapolis, Minn. Dr. Murray specializes in internal medicine.

■ **Virginia H. Peden, M.D.,** 1465 S. Grand, St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. Dr. Peden received her preliminary education at Washington University and her medical degree at Washington University in 1947. She completed her residency training at St. Louis City Hospital. Dr. Peden specializes in pediatrics and endocrinology.

■ **Dorothy S. Perry, M.D.,** 11133 Dunn Rd., St. Louis 63136, has become a member of the St. Louis Metropolitan Medical Society. Dr. Perry received her preliminary education at Swarthmore College and her medical degree at St. Louis University in 1977. She completed her residency training at Northwestern Memorial Hospital in Chicago, Ill. Dr. Perry specializes in anesthesiology and cardiac anesthesiology.

■ **Mahmood A. Qalbani, M.D.,** 422 First Capitol Dr., St. Charles 63301, has become a member of the St. Charles-Lincoln County Medical Society. Dr. Qalbani received his preliminary education at Government College Hyderabad and his medical degree at the University of Sind in 1969. He completed his residency training at Illinois Masonic Medical in Chicago, Ill. Dr. Qalbani specializes in anesthesiology.

■ **Michael E. Rau, M.D.,** 1730 Woodmore Oaks Dr., Manchester 63011, has become a member of the St. Louis Metropolitan Medical Society. Dr. Rau received his preliminary education at Northwest Missouri State University and his medical degree at the University of Missouri-Columbia in 1983. He is currently completing his residency training at St. John's Mercy Medical Center in St. Louis. Dr. Rau will specialize in internal medicine.

■ **Romie N. Richardson, D.O.,** 103 E. Vine, Brunswick 65236, has become a member of the Chariton-Macon-Monroe-Randolph County Medical Society. Dr. Richardson received his preliminary education at Northeast Missouri State University and his osteopathic degree at the Kirksville College of Osteopathic Medicine in 1978. He completed his internship at Charles E. Still Osteopathic Hospital in Jefferson City, Mo. Dr. Richardson specializes in general surgery.

■ **Rodney A. Roe, M.D.,** 3535 S. National, Springfield 65807, has become a member of the Greene County Medical Society. Dr. Roe received his preliminary education at Arkansas Polytechnic College and his medical degree at the University of Arkansas in 1968. He completed his residency training at St. Joseph's Hospital in Phoenix, Ariz. Dr. Roe specializes in anatomic and clinical pathology.

■ **James T. Rogers, Jr., M.D.,** 1900 S. National, Suite 3400, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Rogers received his preliminary education at Arkansas State University and his medical degree at the University of Arkansas in 1980. He completed his residency training at the Oklahoma Memorial Hospital in Norman, Okla. Dr. Rogers specializes in internal medicine.

■ **Bruce M. Rothschild, M.D.,** 4949 Rockhill Rd., Kansas City 64110, has become a member of the Jackson County Medical Society. Dr. Rothschild received his preliminary education at Seton Hall University and his medical degree at the New Jersey College of Medicine in 1973. He completed his residency training at St. Vincent Hospital in Worcester, Mass. Dr. Rothschild specializes in rheumatology.

■ **Vicki B. Sabie, M.D.,** 11 Smokey Ridge Ct., St. Charles 63301, has become a member of the St. Louis Metropolitan Medical Society. Dr. Sabie received her preliminary education at Morehead State University and her medical degree at the University of Kentucky in 1977. She completed her residency training at the University of Kentucky in Lexington, Ky. Dr. Sabie specializes in pediatrics.

■ **Malaz Safi, M.D.,** St. Louis City Hospital, 1515 Lafayette, St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. Dr. Safi received his preliminary education at Damascus University and his medical degree at Damascus University in 1973. He is currently completing his residency training at the St. Louis City Hospital in St. Louis. Dr. Safi specializes in ophthalmology.

■ **William E. Stricker, M.D.,** 10th & Bishop, Rolla 65401, has become a member of the Mid-Missouri Medical Society. Dr. Stricker received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Kansas City in 1978. He completed his residency training at the Mayo Clinic in Rochester, Minn. Dr. Stricker specializes in internal medicine, allergy and immunology.

■ **Stanley Wilson, M.D.,** 700 S. Limit, Sedalia 65301, has become a member of the Pettis County Medical Society. Dr. Wilson received his preliminary education at Central Missouri State University and his medical degree at the University of Missouri-Columbia in 1981. He completed his residency training at the University of Missouri Health Sciences Center in Columbia, Mo. Dr. Wilson specializes in family practice.

■ **Michael C. Wulfers, M.D.,** Hospital Lane and Center Dr., Ste. Genevieve 63670, has become a member of the Perry-Ste. Genevieve County Medical Society. Dr. Wulfers received his preliminary education at Southeast Missouri State University and his medical degree at the University of Missouri-Columbia in 1979. He completed his residency training at the Bowman Gray-Wake Forest University in Winston-Salem, N.C. Dr. Wulfers specializes in family practice.

■ **Charles L. Yates, M.D.,** Post Office Box 975, Columbia, 65201 has become a member of the Boone County Medical Society. Dr. Yates received his preliminary education at Vanderbilt University and his medical degree at the University of Kentucky in 1977. He completed his residency training at the University of Missouri-Columbia in Columbia, Mo. He specializes in anesthesiology.

St. Louis University

Mark F. Bradbury
Mary E. Gnojewski
Michael Lobos
Mark J. Pfleger

University of Missouri-Kansas City

Ozoemenam Immanuel Uketui

Washington University

Brian A. Armstrong
Michael E. Joyce
William A. Plautz

FINANCIAL STATEMENT FOR THE YEAR 1984

RICHARD J. LENNERTSON
Certified Public Accountant
ST. LOUIS, MISSOURI 63144

January 31, 1985

Missouri State Medical Association
113 Madison
Jefferson City, MO 65101

Gentlemen,

An examination has been made of the balance sheet of Missouri State Medical Association, a non-profit Missouri corporation, as of December 31, 1984 and attached are the related statements of income and reserves and changes in financial position for the year then ended. The examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as I considered necessary in the circumstances.

In my opinion, the aforementioned financial statements present fairly the financial position of Missouri State Medical Association at December 31, 1984, and the results of its operations and the changes in its financial position for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Yours very truly,
Richard J. Lennertson

Exhibit A

Missouri State Medical Association
Balance Sheet, December 31, 1984

Assets

Current Assets		
Cash in Banks and On Hand	$ 30,183	
Certificates of Deposit	395,000	
Accounts Receivable — Advertisers	6,778	
Accounts Receivable — Others	1,275	
Income Tax Deposits	3,755	
Total Current Assets		$ 436,991
Investments (Exhibit C-2)		
Certificate of Deposit	$ 207,000	
Corporation Stocks at Cost	182,509	
Equity Investments:		
M.S.M.I. — 100% owned	35,605	
Momedico — 10.8% owned	487,493	
Total Investments		912,607
Dues Receivable — Exhibit D (See Reserve-Contra)		13,232
Fixed Assets (At Cost)		
Land	$ 83,000	
Building	230,648	
Furniture and Equipment	132,771	
Total	$ 446,419	
Less Accumulated Depreciation	105,669	340,750
Advance for Travel		1,252
		$1,704,832

Liabilities

Current Liabilities		
Accounts Payable	$ 4,274	
Note Payable Momedico — due in one year	90,448	
Due Missouri State Medical Foundation	20	
Due American Medical Association	461	
Due County Medical Societies	101	
Total Current Liabilities		$ 95,304
Deferred Credit to Income (Advance Dues)		314,068
Reserve for Uncollected Dues (See Receivables)		13,232
Subordinated Debenture Notes		616,706
Reserve for Future Activities — Balance 1/1/84	$ 725,013	
Loss on Sale of Securities	(13,915)	
Reinvestment of Permanent Investment Income	58,908	
Excess of Expenses over Income — Exhibit B	(104,484)	665,522
		$1,704,832

(See accompanying notes to financial statements)

Exhibit B

Missouri State Medical Association
Income Statement for the Year 1984

Particulars	*General Activities*	*Journal Publication*	*Total*
Dues Received (including $3.00 per member annually for the Journal)	$478,875	$ 14,756	$ 593,631
Rentals — Annual Session Exhibit Space	13,500		13,500
Annual Session Contributions	400		400
Subscriptions to the Journal — Nonmembers		3,245	3,245
Advertising Space — The Journal		56,345	56,345
Investments, Interests & Dividends	87,644		87,644
Collection Fees on A.M.A. Dues	9,722		9,722
Reimbursed Fees for Services	45,817		45,817
Equity Income — Subsidiaries:			
M.S.M.I. — 100% owned	93,797		93,797
Momedico — 10.8% owned	(10,845)		(10,845)
Total Income	$818,910	$ 74,346	$ 893,256
Expenses			
Salaries	$265,538	$ 48,139	$313,677
The Journal — Paper, Printing, Etc.		114,736	114,736
Commission on Journal Advertising		6,930	6,930
Commissions and Meeting Expenses	168,620		168,620
AMA/GTE Telenet System	45,587		45,587
PRO — Professional Review	11,652		11,652
Computer Expenses	12,990		12,990
Consultation Fee	6,800		6,800
Custodian Fees — Investments	735		735
Depreciation	28,057	3,392	31,449
Dues and Subscriptions	2,427		2,427
Employees' Pension Plan Contributions	37,146	3,862	41,008
Equipment Rentals & Repairs	3,127	606	3,733
Insurance — General	3,150		3,150
Insurance — Blue Cross	19,539	1,895	21,434
Interest Expense	18,486		18,486
MMPAC — Administrative Expenses	6,007		6,007
Occupancy Expense	8,276	1,535	9,811
Postage	18,256		18,256
Professional Fees	14,420	1,000	15,420
Public Relations Program	16,571		16,571
Reinvested Fixed Income	58,922		58,922
Stationery, Printing & Office Supplies	17,178		17,178
Student Awards	400		400
Taxes — Payroll	20,692	4,076	24,768
Taxes — Real Estate	870		870
Telephone and Telegraph	17,611	3,266	20,877
Traveling Expenses — Executive Secretary and Assistants	5,246		5,246
Total Expenses	$808,303	$ 189,37	$ 997,740
Excess of Expenses Over Income	$ 10,607	$(115,091)	$(104,484)

(See accompanying notes to financial statements)

Exhibit C-1

Missouri State Medical Association
Statement of Commissions and Meeting Expenses
for the Year 1984

Annual Session		$ 52,179
Council		38,549
Delegates to A.M.A.		46,904
Public Affairs		15,662
Women's Auxiliary		6,574
Commissions:		
Commission on Medical Economics, Third Party Medicine and Governmental Relations	$ 1,977	
Commission on Continuing Education and Health Manpower	4,412	
Commission on Medical Legal Affairs	150	
Commission on Interspecialty Medicine	170	

Commission on Medical Public Affairs	206	
Commission on Planning	147	
Commission on Impaired Physicians	71	
Action Commitee to Negotiate with 3rd Party in Hospitals	400	
Discretionary Council Fund	1,219	8,752
Total		$168,620

Exhibit C-2

Statement of Investments December 31, 1984

Description		
Central Trust C.D. 8.00% due 1/31/85		$207,000
Arch Fund Inc. — Class B	$39,364	
100 shares Anheuser Busch Companies, Inc.	6,753	
330 shares Baker International	2,970	
200 shares Borg Warner Corporation	4,255	
400 shares Consolidated Freightway	9,999	
100 shares Emerson Electric Company	6,853	
100 shares General Mills Inc.	5,565	
200 shares W. W. Grainger Inc.	11,280	
100 shares GTE Corporation	4,053	
200 shares Hospital Corporation of America	9,205	
100 shares International Business Machines	10,703	
300 shares McGraw Edison	9,196	
200 shares Monsanto Company	9,015	
400 shares NCR Corporation	11,277	
100 shares Northern States Power	4,140	
200 shares J. C. Penney Company, Inc.	11,830	
200 shares Perkin-Elmer Corporation	5,480	
100 shares Pfizer Incorporated	3,478	
200 shares Schlumberger Ltd.	10,580	
100 shares U. S. West, Inc.	6,513	182,509
Total Cost (Market Value $390,775)		$389,509
Equity Investments		
M.S.M.I., Inc. — 100% owned		35,605
Missouri Medical Insurance Company — 10.8% owned		487,493
Total		$912,607

(See accompanying notes to financial statements)

Exhibit D-1

Missouri State Medical Association
Dues Receivable and Membership by Societies
December 31, 1984

	MEMBERSHIP					
Societies	*Students*	*Junior*	*Active*	*Honor*	*Total*	*Unpaid Dues*
10 Andrew			4	1	5	
14 Audrain			35	2	37	
18 Barton			4	2	6	
26 Boone		20	261	25	306	$ 1,190.00
30 Buchanan			107	22	129	470.00
34 Butler-Wayne-Ripley-Carter			65	4	69	472.50
38 Callaway			10	4	14	
42 Cape Girardeau			105	6	111	1,000.00
46 Chariton-Macon-Monroe-Randolph			21	8	29	
50 Clay-Platte			132	7	139	430.00
54 Clinton			3	1	4	
58 Cole			75	8	83	470.00
62 Cooper			6	1	7	
66 Dallas-Hickory-Polk-Dade			11	3	14	
70 Dunklin			23		23	310.00
74 Franklin-Gasconade-Warren			41	4	45	
78 Grand River			27	5	32	310.00
82 Greene			332	36	368	
86 Henry			6	2	8	
94 Howard			7	1	8	67.50
98 Jackson		66	995	218	1279	4,312.50
102 Jasper			113	14	127	855.00
106 Jefferson			31	1	32	270.00
110 Johnson			12	2	14	150.00
115 Laclede			6	1	7	
118 Lafayette-Ray			26	3	29	
120 Lake of the Ozarks			18	2	20	
135 Mid-Missouri			41	3	44	290.00
138 Mineral Area			38	6	44	155.00
142 Moniteau			2	1	3	
146 Montgomery			1		1	
150 Northeast			36	2	38	
158 Northwest			18	3	21	
162 North Central			2	1	3	
166 Ozarks			31	10	41	
170 Pemiscot			8	1	9	
174 Perry-St. Genevieve			18	3	21	235.00
178 Pettis			32	3	35	585.00
186 Pike			6		6	
189 St. Charles-Lincoln			7	4	81	260.00
190 St. Louis Metropolitan		103	2006	302	2411	
198 Saline			12	2	14	145.00
202 SEMO			40	3	43	470.00
206 South Central		1	30	1	32	435.00
208 Tri Lakes			11	1	12	185.00
210 Webster			3		3	
214 West Central			30	7	37	165.00
216 St. Louis University	210				210	
218 University of Missouri-Columbia	242				242	
220 University of Missouri-Kansas City	218				218	
222 Washington University	117				117	
Totals	787	190	4918	736	6631	$13,232.50 (A)

(A) Delinquent dues of members at December 31, 1984 carried at the request of local Societies. Other delinquent members were dropped from membership in accordance with the by-laws.

(See accompanying notes to financial statements)

Exhibit E

Missouri State Medical Association
Statement of Source and Application of Funds
for the Year 1984

Funds Applied		
Excess of Expenses over Income for year	$104,484	
Less Depreciation (non cash)	32,766	
Funds Required for Operations	$ 71,718	
Purchase of Fixed Assets (Net)	142,838	
Payment on Momedico Loan	90,448	
Payment on Debenture Notes	8,000	
Decrease in Deferred Credit to Income	33,323	
Loss on Sale of Securities	13,915	
Total Funds Applied		$360,242
Funds Acquired		
Decrease in Investments	$152,462	
Decrease in Travel Advance	18	
Reinvestment of Permanent Investment Income	58,908	
Total Funds Acquired		211,388
Balance-Decrease in Working Capital		$148,854
Accounted for as follows:		
Decrease in Cash and Certificates of Deposit		$158,689
Decrease in Income Tax Deposit		3,496
		$162,185
Less: Decrease in Accounts Receivable	$ 1,663	
Decrease in Current Liabilities	11,668	13,331
Balance-Decrease in Working Capital		$148,854

Missouri State Medical Association
Notes to Financial Statements
December 31, 1984

1. *Investments* Permanent investments with a cost of $389,509 were confirmed by statements from the trust companies. Equity investment in Missouri Medical Insurance Company was obtained from unaudited financial statements prepared by the company's employees. M.S.M.I. equity investment was obtained from audited statements.

2. *Building, Equipment and Depreciation* The building occupied by the Association with a cost of $137,810 will be depreciated over a useful life of 30 years and the furniture and equipment in the amount of $182,685 has an average 6 year useful life. The adjoining land and building was purchased in 1984 for $149,974 with funds from the permanent investment account. Depreciation is computed on a straight line basis.

3. *Dues and Assessments* Membership dues and assessments received in advance are carried as deferred credit to income and will be picked up as income in the next year. Dues and assessments in effect for each member during the year 1984 are as follows:

	Active	*Junior*
Journal	$ 3.00	$ 3.00
Association General Fund	122.00	7.00
Foundation Assessment	10.00	
M.S.M.A. Dues and Assessments	$135.00	$10.00
American Medical Association	330.00	45.00
Totals	$465.00	$55.00

4. *Subordinated Notes* The notes are issued without interest or maturity date and interest or repayment is at the discretion of the council of the Missouri State Medical Association, and the restrictions contained in the subordinated notes.

5. *Income Taxes* The Internal Revenue Service requires that the Association pay taxes on its unrelated business income. For the year ended December 31, 1984, the Association had net income of $551 on their unrelated business income, which did not require the payment of income tax.

FINANCIAL STATEMENT
MISSOURI STATE MEDICAL FOUNDATION
DECEMBER 31, 1984

January 31, 1985

Missouri State Medical Foundation
113 Madison
Jefferson City, MO 65101

Gentlemen,

I have examined the balance sheet of Missouri State Medical Foundation as of December 31, 1984, and the related statements of support, revenue and expenses and changes in fund balances for the year then ended. The examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other procedures as I considered necessary in the circumstances.

In my opinion, the aforementioned statements present fairly the assets and liabilities of Missouri State Medical Foundation at December 31, 1984, arising from cash transactions, and the revenues collected and expenditures made by it during the year then ended, on a basis consistent with that of the preceding year.

Yours very truly,
Richard J. Lennertson

Exhibit A

Missouri State Medical Foundation
Balance Sheet (Cash Basis), December 31, 1984

Assets		
Current Assets		
Checking Account — Central Trust Bank	$ 505	
Money Market Account — Central Trust Bank	219,176	
Total Current Assets		$ 219,681
Loans Receivable — Medical Students	$1,209,199	
Less Reserve for Losses	37,167	1,172,032
		$1,391,713
Fund Reserve		
Balance January 1, 1984		$1,270,949
Additions for the Year 1984		
Interest on Student Loans	$ 58,311	
Interest on Bank Deposits	22,071	
Contributions (detail below)	9,940	
Assessments of Members, Active $10	47,358	137,680
		$1,408,629
Less Expenses for the Year 1984		
Administrative Services	$ 7,500	
Professional Fees	1,600	
Printing, Meetings and Miscellaneous	1,226	
Provision for Losses on Student Loans	6,590	16,916
		$1,391,713
Contributions		
Women's Auxiliary		$8,193
Physicians		527
Others		1,220
		$9,940

(See accompanying notes to financial statements)

Missouri State Medical Foundation
Notes to Financial Statements
December 31, 1984

1. *Income* Accrued interest on outstanding loans at December 31, 1984 amounted to $50,632 and is not included in the loan balance in Exhibit A.
2. *Student Loans* Summary of Loans Receivable

Loans Receivable January 1, 1984	$1,076,645
Loans made during the year	225,000
	$1,301,645
Less Loan Written Off (Death)	206
Less Loan Repayments	92,240
Loans Receivable December 31, 1984	$1,209,199

3. *Reserve for Losses* This reserve is carried to offset uncollectable loans and to charge off student loan balances in the event of death.

Can you top this?

* Compare these graded premium whole life rates with any term:

Age	*$100,000*	*$250,000*	*$500,000*	*$1,000,000*
30	$118	$ 195	$ 371	$ 695
35	120	201	384	725
40	149	253	480	935
45	179	322	615	1205
50	221	405	770	1535
55	314	593	1160	2295
60	506	998	1974	3915
65	837	1700	3384	6725

Non-Smoker Annual Rates Shown

- ★ Premiums are guaranteed for the first 5 policy years.
- ★ Convertible to any level premium whole life offered by company.
- ★ Premiums increase each year to age 75 then level.
- ★ Rated an "A" Excellent Life Company by A. M. Best Co.

For more information, return this form or contact:

Wes Woodbury & Associates
3609 NE 62nd Terrace
Kansas City, MO 64119
816-455-3400

Amount of insurance $ ____________

Date of Birth ____________

Smoker/Non-Smoker (circle one)

Name ____________

Address ____________

City/State ____________

Zip ____________ Phone ____________

Information for Contributors

Articles are accepted for publication on condition that they are contributed solely to this journal. Material appearing in Missouri Medicine is protected by copyright.

Manuscripts should be submitted to the editor, Jordan W. Burkey, M.D., P.O. Box 1028, 113 Madison, Jefferson City, Mo. 65102. The transmittal letter should designate one author as correspondent and include his address and telephone number.

In addition, in view of *The Copyright Revision Act of 1976*, effective Jan. 1, 1978, transmittal letters to the editor should contain the following language: "In consideration of the Missouri State Medical Association's taking action in reviewing and editing my submission, the author(s) undersigned hereby transfers, assigns or otherwise conveys all copyright ownership to the MSMA in the event that such work is published by the MSMA." We regret that transmittal letters not containing the foregoing language signed by all authors of the submission will necessitate delay in review of the manuscript. Please include the title of the article in the transmittal letter.

Manuscripts

Manuscripts should be typewritten, double spaced, and the original with one copy submitted. Retain another copy for proofreading. Please number the pages of your manuscript. Manuscripts are not returned. Hospital and University appointments of the author(s) should accompany the manuscript. A synopsis-abstract of no more than 75 words should accompany the manuscript.

References

References should be cited in numerical order in the text and arranged at the end of the article in the same order in which they are cited. The reference should give name of author, title of article, name of periodical, volume number, initial page number and year. Authors are responsible for reference accuracy.

Illustrations

Illustrations should be glossy prints or drawings in India ink on white paper. They should not be mounted and name of author and figure number should be penciled lightly on the back. Legends should appear on a separate sheet.

Legal difficulties may arise from unauthorized use of names, initials or photographs in which individuals can be identified. Permission should be secured from patient or legal guardian and signed duplicate or photostat submitted with such photographs or identification. The Editor and Editorial Board assume no responsibility for the opinions and claims expressed in articles contributed by authors. If citation of an institution related to the article is made, approval of the chief of service should be given in a letter accompanying the article.

Reprints

Reprint order blanks will accompany proof, which will be sent to authors prior to publication.

Editorials

Editorials should be written in clear, concise language. Length should be about two or three pages typed with double spacing.

Letters

Letters will be published at the discretion of the editor, managing editor, and Editorial Board.

Deadline

All material other than scientific should be received prior to the first of the month preceding month of publication.

Index to Advertisers

Army National Guard **114**
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CLASSIFIED ADVERTISING INFORMATION

Rates: $15 per insertion for 50 words or less for members and $25 per insertion for 50 words or less for nonmembers, with an additional 25¢ per word in excess of 50.

Copy Deadline: Copy due by the first of the month prior to month of publication. Send to MISSOURI MEDICINE, 113 Madison, P.O. Box 1028, Jefferson City 65102.

Word Count: Count as one word all single words, two initials of a name, each abbreviation, isolated numbers, groups of numbers, hyphenated words. Count file numbers as five words.

File Numbers — Advertisers using file numbers forbid disclosure of their identity. Written inquiries are forwarded to such advertisers. To assure prompt delivery when replying to an advertisement with a Journal file number, address letters as follows: File (insert number), c/o Missouri State Medical Association, P.O. Box 1028, Jefferson City, Mo. 65102.

All advertisements are subject to approval by the Editorial Board prior to acceptance.

Classifieds

1985 CME Cruise/Conferences on Selected Medical Topics — Caribbean, Mexican, Hawaiian, Alaskan, Mediterranean. Seven to 14 days year-round. Approved for 20-24 CME Cat. I credits (AMA/PRA) and AAFP prescribed credit. Distinguished professors. Fly round trip free on Caribbean, Mexican and Alaskan Cruises. Excellent group fares on finest ships. Registration limited. Pre-scheduled in compliance with present IRS requirements. Information: International Conferences, 189 Lodge Ave., Huntington Station, N.Y. 11746. (516) 549-0869.

Staff Psychiatrists — Needed for inpatient units in rural community within one hour drive of St. Louis. Excellent school system and community in which to raise children. Qualifications: Board certified or eligible; current Missouri license or eligibility to obtain MO license. Currently have 350-bed hospital, with approved funding for new 170-bed inpatient hospital, 90-bed forensic facility, and 200-bed mental health program in corrections. Salary: $59,410, plus $8-10,000/year for on-call (3-4 days/month); board certification differential; malpractice, health insurance; tax deferred comp.; retirement benefits; life insurance; 3 weeks vacation; 3 weeks sick leave; 10 days CME. Reimbursement for interview/moving expenses upon employment. Call or write Gary L. Bassett, M.D., Chief of Medical Staff, Farmington State Hospital, Farmington, MO 63640. (314) 756-6792 ext. 347.

Orthopedics and ENT — Associate with 14 M.D. multispecialty group. Population 20,000 with 60,000 drawing area, excellent family area, two hospitals, practice coverage and benefits. Contact: James K. Mann, M.D., Hannibal Clinic, Inc., 711 Grand, Hannibal, MO 63401. 314-221-5250.

Emergency Medicine — Full and part-time positions available in emergency departments and clinics for qualified physicians seeking lucrative employment opportunities. Outstanding remuneration and comprehensive malpractice insurance provided. For further information contact: Amy Eisenman, Staffing Specialist, National Emergency Services, Inc., 1 Hollow Lane, Suite 304, Lake Success, New York 11042. Or call 1-800-645-4848.

Needed: Pediatrician, Ob-Gynecologist, Internist, Family Physician and Internist. Outskirts of St. Louis. Send complete resume to CA File 492, Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102.

Family Practice — Mark Twain Lake Resort, population over 3,000. Two hospitals locally. Already established practice and office is available. Write to P.O. Box 206, Monroe City, MO 63456.

Freestanding Clinics — St. Louis. We are seeking primary care physicians with previous emergency department experience for Directorship, full and parttime positions. Convenient metropolitan location and working hours. Reply to Amy Eisenman, Staffing Specialist, National Emergency Services, Inc., 1 Hollow Lane, Suite 304, Lake Success, NY 11042 or call 1-800-645-4848.

Family Practice for Sale — Southwest St. Louis County. Includes the furniture of three exam rooms, waiting room, reception area and doctors office, typewriter, file cabinets, copy machine and patient records. All for $13,000 or best Offer. Write CA File Box 491, Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102.

Medical Consultant — Highly responsible administrative physician needed to provide statewide consultation to Department of Mental Health, Central Office, and facility management on treatment and residential care services for those affected by mental illness, developmental disabilities, and alcohol/drug abuse. Position plans and coordinates programs for physician recruitment, orientation, and evaluation, serves as liaison with physician training programs in state, identifies and resolves problems in the management and treatment of patients, and evaluates established medical programs for need, effectiveness, and standard compliance. Requires M.D. or D.O. and completion of residency in psychiatry, neurology, internal medicine, public health, or related field with two years professional experience in the appropriate field. Board certification may be substituted for one year of experience. Must be able to secure license in Missouri. Salary range: $64,644-$73,632 board certified, $61,668-$70,644 board eligible. Interested applicants should contact: Donald Clark, Department Recruitment Specialist, Department of Mental Health, 2002 Missouri Boulevard, P.O. Box 687, Jefferson City, Missouri 65102. Deadline for application is March 15, 1985. An Equal Opportunity Employer.

Seeking Psychiatrist to join solo practice of psychiatry. Send CV and salary requirements to File Box 490, Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102.

For Sale — 7½-year-old established general practice in South St. Louis County area (Affton). There are several large hospitals in the service area. For information, write to CA File Box 493, Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102.

Story and photos by Laurie Cofer

Portraits

Rock Artist

Weaving through Dr. Tompson's basement is a journey through a dozen workshops, one for jewelry, one for woodworking, one for china painting. . . .

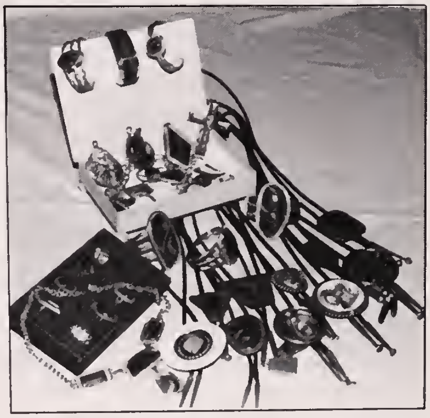
Robert V. Tompson, M.D.

For the past several years, Robert V. Tompson, M.D., has been using surgical instruments to perform meticulous, precise operations . . . on silver and stone.

A Moberly surgeon and MSMA Councilor, Dr. Tompson is a skilled craftsman in jewelry-making. His interest in the art was first stirred years ago by one of his patients, a geologist in California. More than 10 years later, Dr. Tompson began to pursue his interest by studying weekly for six months with an expert jewelry-maker in Columbia, Mo.

To date, Dr. Tompson has designed and created literally hundreds of pieces of jewelry. His materials have included silver, jasper, jade, malachite, dendrite agate, opal, turquoise, tiger's eye, and many more.

"Nothing goes to waste in my shop," Dr. Tompson says, "I keep all the filings from my work. Not long ago, I made a silver belt buckle from the filings I'd been collecting."



The result of Dr. Tompson's work is a beautiful one-of-a-kind collection of fine jewelry.

His creations run the gamut from rings to chains, bola ties to necklaces, bracelets to stickpins. Dr. Tompson's bola ties have virtually become a trademark for the physician. He wears his beautiful designs and artwork around his neck almost daily, instead of the more traditional men's ties.

He and his wife are now active members of the Central Missouri Rock and Lapidary Club. But their interests and talents don't stop there. Mrs. Tompson is an extraordinary artist in china painting. She won first place at the State Fair last year in Sedalia. And Dr. Tompson, some would say, seems to some to have more avocations than some physicians have patients. His hours are peacefully toiled away with winemaking, woodworking, hunting and fishing. He even spends time casting his own bullets.

When does he have time for his patients? Whenever they need him. Like most physicians, Dr. Tompson is well-aware of and respects his professional commitment. However, Dr. Tompson also has a clear set of priorities which permits him more time away from the office and more time with his wife and family (including a new grandchild), and the things he loves.

"I'm not rich," Dr. Tompson states.

That, however, is a matter of opinion. ■

COMPLETE LABORATORY DOCUMENTATION[1-5]... EXTENSIVE CLINICAL PROOF

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- More total sleep time[1-6]
- Undiminished efficacy for at least 28 consecutive nights[2-4]
- Patients usually awake rested and refreshed[7-9]
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Caution patients about driving, operating hazardous machinery or drinking alcohol during therapy. Limit dose to 15 mg in elderly or debilitated patients. Contraindicated during pregnancy.

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References: 1. Kales J *et al*: *Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. **2.** Kales A *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A *et al*: *Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A *et al*: *Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **6.** Kales A, Kales JD: *J Clin Pharmacol 3*:140-150, Apr 1983. **7.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977. **8.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **9.** Amrein R *et al*: *Drugs Exp Clin Res* 9(1):85-99, 1983. **10.** Monti JM: *Methods Find Exp Clin Pharmacol 3*:303-326, May 1981. **11.** Greenblatt DJ *et al*: *Sleep 5*(Suppl 1):S18-S27, 1982. **12.** Kales A *et al*: *Pharmacology 26*:121-137, 1983.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

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DOCUMENTED IN THE SLEEP LABORATORY[1-5]...

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Missouri Medicine

Journal of the Missouri State Medical Association

April 1985

STACKS V.82, #4, 1985

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Missouri Medicine

Vol. 82, No. 4 *Journal of the Missouri State Medical Association* April 1985

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Missouri Medicine (ISSN 0026-6620) is published monthly by the Missouri State Medical Association, P.O. Box 1028, 113 Madison St., Jefferson City, MO 65102.

Subscription rates: $15 per year. Interns and Residents, $7.50 per year.

Second class postage paid at Jefferson City, Missouri and at additional mailing offices.

Postmaster: Send address changes to Missouri State Medical Association, c/o Membership Department, P.O. Box 1028, Jefferson City, MO 65102.

The articles published in *Missouri Medicine* represent the opinions of the authors, and do not necessarily reflect the official policy of the Missouri State Medical Association.

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Cover

"Swans at Milwaukee Zoo," By Betsy Goldman, *Chesterfield*. This beautiful watercolor is in the private collection of the First Presbyterian Church of Edwardsville, Illinois.

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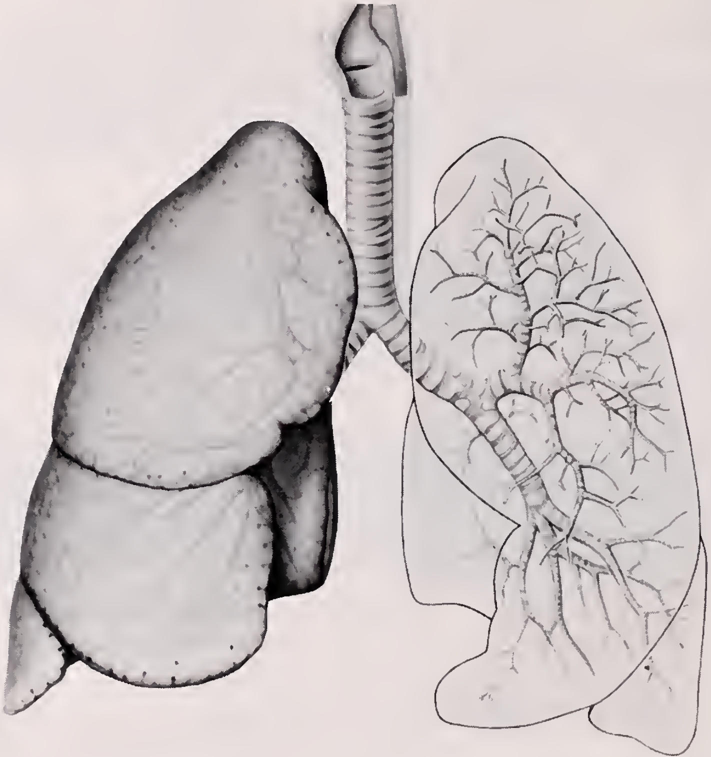
Consider the causative organisms...



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offers effectiveness against the major causes of bacterial bronchitis

H. influenzae, *H. influenzae*, *S. pneumoniae*, *S. pyogenes*
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Brief Summary Consult the package literature for prescribing information

Indications and Usage Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae* and *S pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C difficile* Other causes of colitis should be ruled out

Precautions *General Precautions* – If an allergic reaction to Ceclor® (cefaclor, Lilly) occurs the drug should be discontinued and, if necessary, the patient should be treated with appropriate agents, e g, pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy – Pregnancy Category B – Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor® (cefaclor, Lilly) There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers – Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0 18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor is administered to a nursing woman

Usage in Children – Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain – Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic – Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic – Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal – Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[D617B2R]

Note Ceclor® (cefaclor Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

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MSMA Progress Notes

Malpractice bills at top of MSMA's legislative agenda

The MSMA and its physician-members are keenly interested and involved in several issues being addressed by the Missouri General Assembly this year.

The Association has been active in attempting to gain legislative approval of three bills dealing with the medical malpractice insurance crisis and two bills which would protect the confidentiality of peer review committee proceedings.

The malpractice bills are Senate Bill 7, which would reduce the amount of awards in malpractice cases by the monies the claimant received from collateral sources; Senate Bill 49, which would mandate that malpractice awards over $50,000 be structured over a period of time rather than paid in lump sum; and Senate Bill 126, which would place a cap of $350,000 on awards for "non-economic" losses in such cases.

Regarding peer review, both Senate Bill 215 and House Bill 357 would make the proceedings of peer review committees non-discoverable in malpractice actions. A Missouri Supreme Court ruling last September opened the records of these committees and it is feared that the effectiveness of peer review will be destroyed unless confidentiality is assured.

MSMA members are urged to contact their state representatives and senators with their support for the malpractice and peer review bills.

The Association has also appeared in support of bills to mandate auto seat belt usage in Missouri, which has already been adopted, and to establish a separate Missouri Department of Health.

Bills to license and permit the practice of *lay* midwifery in the state have received sympathetic support from the press and several legislators. The MSMA has coordinated efforts to derail the bills by informing legislators of the dangers involved in permitting non-qualified individuals to deal with the medical emergencies which often develop during pregnancy and birth. Please advise your elected officials of the dangers inherent in such legislation.

Over 175 bills of interest to physicians and their patients have been introduced into the current General Assembly. The Association has presented testimony and lobbied on many, many of these issues. If you are interested in specific legislation, you are urged to contact MSMA Headquarters.

A listing of just a few of the bills introduced follows:

(Code: **SB**-*Senate Bill;* **HB**-*House Bill;* **SCS**-*Senate Committee Substitute;* **HCS**-*House Committee Substitute;* **HS**-*House Substitute)*

SB 1 *Certificates of Need.* Would establish criteria for the Health Facilities Review Committee in granting certification of need and require the Committee to issue a decision within 120 days. (Monitor)

SB 7 *Collateral Sources.* Would provide that, in actions against health care providers for damages for personal injury or death, the court would reduce the award according to the amount of income received by the injured party from government disability programs, health insurance or employer plans. Injured party would be credited with the amount he paid for coverage. (Support)

SB 25 *Department of Health.* Would establish a separate Missouri Department of Health to supervise and manage all public health functions. Upgrades present Division to Department status. (Support)

SB 49 *Structured Awards.* Would provide that malpractice damages could be allocated between past and future damages. If the amount for future damages exceeded $50,000, it would require such amounts be indicated for medical bills or for pain and suffering and provide that the claims be paid in installments. Requires debtor to post security to insure payment and allows court to later increase award if costs become much higher. (Support)

SB 51 *Living Wills.* Would provide that persons over 18 could execute a living will directing withholding or withdrawal of medical treatment of life sustaining procedures. (Monitor)

SB 54 *Wound Reporting.* Would require physicians to report to local law officials any treatment for gunshot wounds. (Amend and Monitor)

SB 82 *Good Samaritan.* Would expand the Good Samaritan Statute to cover emergency medical technicians. (Support)

SB 90 *Prompt Payment.* Among

its provisions, would require Medicaid to pay bills within 30 days or pay interest. (Support)

SB 126 *Cap on Awards.* Would establish a limit of $350,000 per occurrence for recovery for non-economic loss and for punitive damages in malpractice suits. (Support)

SB 171 *Physician Assistants.* Would require PAs to be registered with the Board of Healing Arts and be directly supervised by a physician. PAs could not perform any duties under the Optometry Act. Would permit hospitals to prescribe the functions of and regulate the acts of any PA in such hospitals. (Oppose)

SB 215 *Peer Review Committee Confidentiality.* Would make proceedings of medical peer review committees non-discoverable in malpractice cases. Would permit access to such proceedings by the physician being reviewed and the committee. The Board of Healing Arts could subpoena records. (Support)

SB 224 *Midwives Licensing.* Provides for licensing of *lay* midwives to attend women in "normal childbirth." (Oppose)

SB 227 *Physician Therapists.* Would permit PTs to participate in certain screening procedures and fitness programs without the prescription of a physician. PTs have accepted MSMA amendments from 1984. (Monitor)

HB 40 *Mental Health Coverage.* Would require insurance policies to cover mental illness equitable to coverage for other illnesses. (Support)

HB 52 *Medical Records.* Would require medical providers to furnish patients a copy of their medical records upon written request. (Amend and Monitor)

HB 90 *Baby Doe.* Would add "Baby Doe" language to Missouri statutes defining care to handicapped infants. Would permit "interested persons" such as courts, physicians, hospitals, etc., to bring action alleging neglect. Establishes time frames for filing such cases and appeals. MSMA will point out that Federal laws have been passed addressing this situation. (Oppose)

HB 93 *Physicians Reciprocity.* Would permit a complaint to be filed against a physician licensed by Missouri if that physician's license had been denied, suspended or revoked in another state. (Support) ■

AMA members pay low rates on AMA/Net

A new membership benefit has been announced by the AMA and GTE Telenet Inc. The $100 one-time subscription fee to the Medical Information Network will be waived for AMA members. Physicians may use the network free of charge during the first 30 days of their subscriptions while they familiarize themselves with the system.

GTE also has reduced the minimum rate for using the computerized telecommunications network's growing compendium of medical data bases and electronic bulletin boards. Monthly minimum usage charges have been lowered from $45 to $20, the lowest rate ever offered.

Any physician with a computer terminal or microcomputer may access MINET, which now includes seven AMA-designed or AMA-acquired data bases collectively known as AMA/Net. For more information on the discount package, write to MSMA, P.O. Box 1028, Jefferson City, MO 65101, or call 314-636-5151. ■

New ophthalmology center to open soon

The opening and dedication of the new research floor of the Mason Institute of Ophthalmology is planned for April 26-27 at the University of Missouri-Columbia School of Medicine. The guest speaker will be Keith Porter, one of the pioneers in electron microscopy and cell synthesis, who will speak on "The History of Electron Microscopy." At the same time, a new scanning-transmission-energy dispersion analysis electron microscope, acquired through an unrestricted equipment grant from the National Institutes of Health, will be unveiled and put into use as a campus-wide resource for research. ■

Medical specialty guide added to Yellow Pages

Southwestern Bell Yellow Pages has announced plans to introduce a medical specialty guide in which physicians and surgeons may list under an appropriate specialty heading.

The new "Physicians & Surgeons M.D. Medical Specialty Guide" will appear in a number of directories to be published in 1985, and later will be introduced in additional directories in the company's five-state territory which includes Missouri.

The inclusion of specialty headings in the general headings section itself will be discontinued in directories containing the new guide. ■

EDITOR'S DESK

by Jordan W. Burkey, M.D.

How much brain power the doctor employs in treating his patients doesn't show up much, except possibly in grey hair.

Doctor, are you still thinking?

A person with a positive frame of mind always looks forward — looking backward in time isn't too productive, and is sometimes downright depressing. Examining the recent history of medicine can be interesting, however, and surely cannot be any more depressing than some views of the future. One facet of medicine past which comes to attention concerns the things physicians used to do better than they do now — progress is quickly laying asunder a good number of the common procedures of only a few years ago.

A recent re-telling of Dr. Morton's first experience with surgery utilizing ether anesthesia mentions that the leg was amputated in 105 seconds, start to finish. Nowadays the surgery nurses could scarcely do the initial needle and sponge count in that time. No longer can a doctor whip out an individualized prescription for a skin ointment with a dozen ingredients in it — and none of them a steroid. An ear surgeon would feel strapped if asked to do a mastoid procedure with the mallet and chisel of years ago; his sinus surgery technique, no longer as commonly called for as in pre-antibiotic days, is sometimes suspect. Likewise, the internist might not be as apt in outlining pneumonia by percussion; the obstetrician in delivering a breech; or the family doctor in diagnosing diphtheria.

The departure of the need for many such abilities is little lamented. One faculty, however, is to be mourned by its passing — the need to THINK. The automatic page full of orders on new hospital admissions too often takes the place of brain work in deciding what the patients' problems may be, and what limited number of the available procedures are really necessary to aid in diagnosis and treatment. One has only to visit colleagues in third world countries to see "thinking medicine" being practiced. Even with little help from the lab and x-ray departments, and with the latest drugs too expensive to use, good medicine is being practiced — with the brain taking the lead.

Frequently, we reach rapidly for the CT scan; that saves a lot of cerebration and has a favorable effect on the patient all at the same time. The use of latest generation antibiotics also impresses patients; the physician has merely to look at the ballpoint pen the drug detail man gave him to remember how to spell the name of the medicine. Penicillin G may be equally effective; no antibiotics at all may be best, but does one dare treat a patient with only attention and aspirin? How much brain power the doctor employs in treating his patients doesn't show up much, except possibly in grey hair. No, the yesteryears weren't "the good old days" healthwise, but there was a lot of good medicine practiced. ■

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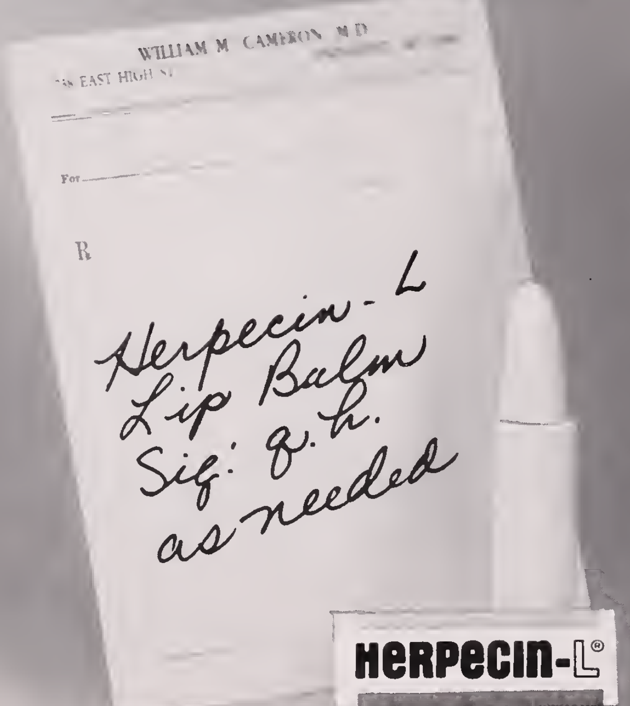

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CARDIZEM® (diltiazem HCl) produces an incidence of adverse reactions not greater than that reported with placebo therapy, thus contributing to the patient's sense of well-being.

*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

References:

1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

Reduces angina attack frequency*
42% to 46% decrease reported in multicenter study.[1]

Increases exercise tolerance*
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(diltiazem HCl)

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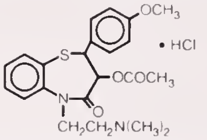
2/84

PROFESSIONAL USE INFORMATION

cardizem®
(diltiazem HCl)
30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+)-cis-. The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted.

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy**—CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

Issued 4/1/84

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PRESIDENT'S PAGE

by James M. Stokes, M.D.

The consequence of commercialization of patient group bidding is the decrease in care for the financially insolvent patient and for those patients who are not profitable because of serious and/or chronic illnesses.

Patients for sale at bargain prices

During the past three months, even a casual reviewer of commercial medicine would have to be startled by the headlines: "Two Chains Bidding for GW Hospital," "PPOs Hottest Ticket in Health Care," and "Hospital Bids for Approval to Transfer Terminally Ill." (*American Medical News,* Feb. 1, 1985.)

Beneath these headlines, the text discloses a frightening aspect of patient care in America. The bidding for patients by commercial organizations, hospitals, business coalitions, and even academic hospitals, underlines the fragmentation of care for the seriously ill patient who is not profitable and for the not-so-ill patient who is commercially attractive.

These events underscore the disclaimers of Medicare and other health insurers toward the low and even medium income patients in this country. The bidding for cut-rate costs and "skimming" by commercial enterprise is only the tip of the iceberg. Physician relationships with hospitals, with Blue Cross/Blue Shield programs, and with referral patterns have yet to respond to these massive changes in a uniform matter.

The sale of the University Teaching Hospital to commercial interests was described as converting the hospital into a "medical Macy's." The Federation of American Hospitals reports a growth in for profit hospitals owned by chains from 438 in 1978 to 890 in 1984 and estimates that one of every five community hospitals is owned or operated by a conglomerate.

Professional care groups have increased at a rate even greater than corporate hospital care groups. The number identified grew from 141 to 240 within one month and is expected to approximate 300 plans by June 1985. Blue Cross and Blue Shield plans have entered the market in an aggressive manner in several states. The huge funds available for leverage by the Blues-sponsored PPOs will undoubtedly affect medical care rates and perhaps quality of care to a greater extent than other smaller organizations.

Individual physicians as providers have not been able to respond to this rapid fragmentation and have been under great pressure to join various PPO organizations ranging from commercial plans to those sponsored by hospitals, the Blues, and privately sponsored organizations. In documented instances, physicians have been intimidated by suggestions that hospital privileges will be contingent upon participation in the hospital's plan.

Obviously, physicians primarily involved in referral practices are likely to be affected initially while office-based physicians have greater latitude in their choices. Despite this medical care fragmentation, the Medical Care and Review Association referred to the Sherman Act, listing the reasons why it was hard to say that PPOs have "yet to save anyone a dime."

(continued on next page)

The financial impact of large Blue Shield/Blue Cross groups upon rates has been reflected in anti-trust suits by other hospitals in several states. PPOs have the ability to increase or decrease costs, but quality is difficult to compare. To date, there is some indication that costs may not be reduced but simply transferred laterally. Competition among physician providers is likely to be keen and, in some cases, divisive.

Hundreds and thousands of patient groups face the possibility of being a bargaining chip.

Physician providers may also be fragmented and provide services on a time basis without true professional association and day-to-day exchange of information. Furthermore, physicians, enticed by a guaranteed income, may join one or more PPOs and be subject to regulations of diagnostic tests and pressure to deliver less than quality care.

The immediate consequence of the pure commercialization of patient group bidding is the decrease in care for the financially insolvent patient and for those patients who are not profitable because of serious and/or chronic illnesses. The article, "Hospital Bids for Approval to Transfer Terminally Ill," indicates the increasing impetus for hospitals to transfer patients with costly ills to other organizations. This would include the terminally ill, the chronically ill, and those not covered by Medicare or Medicaid because of either age or finances. It seems that a new organization which might be called "Poor Patient Provider" may be an extension of the disenfranchisement of these patients whom no one wishes to represent. Physicians have traditionally refused to organize with any effectiveness when subjected to tremendous economic and political forces. If ever organized medicine had a reason for existence, it is now. ■

Letters to the Editor

Oops! There really is a Dr. Hoopes!

Dear Editor:

My partners were amused by the photograph in your editorial in the February 1985 issue of *Missouri Medicine*. The article talked about alcohol problems related to physicians and the picture depicted a sign with "Doctor Hoopes" and after hours phone numbers to call, one of which was the Montana Saloon and Dance Hall. I would like to assure your readers that I have never practiced in any small western town and that I do not drink alcoholic beverages. I can find only two other Hoopes listed in the AMA directory who practice medicine. One is head of the Department of Plastic Surgery at Johns Hopkins University and the other does practice in Montana and is an obstetrician.

I don't think that we should jump to conclusions about the after hours number listed for this doctor at the Montana Saloon and Dance Hall. Perhaps it would be just as easy for us to speculate that Dr. Hoopes is not at the Montana Saloon and Dance Hall drinking but probably (in this day and age of competition) moonlighting as a bartender?

Phillip C. Hoopes, M.D.
Kansas City

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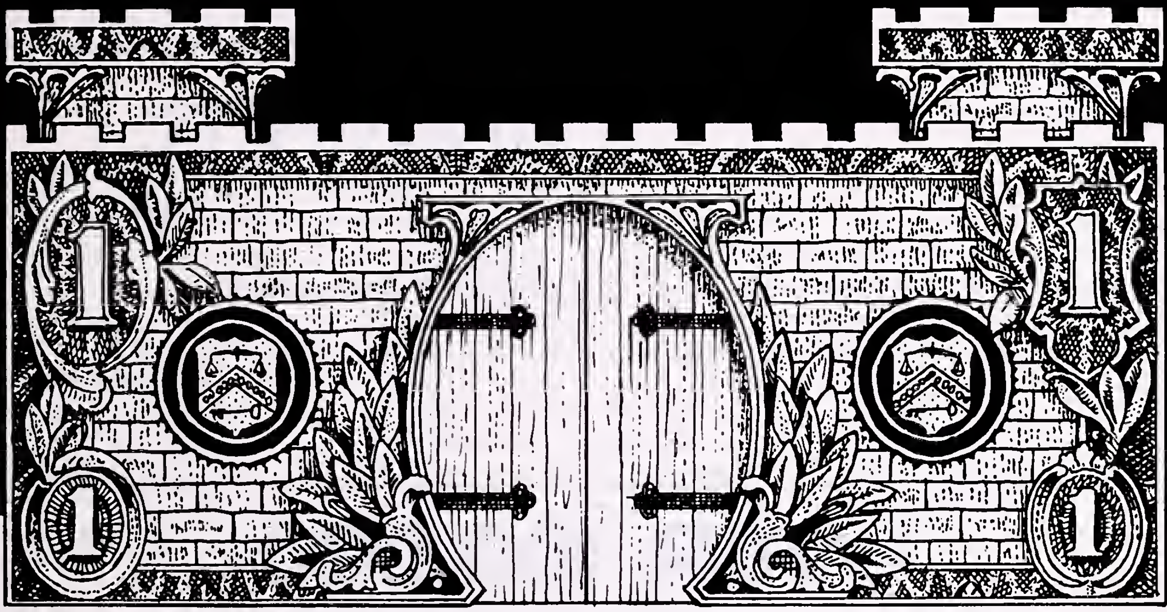

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Auxiliary Message

by
Jennifer Husain (Mrs. Syed A.)
and Pamala Struessel, R.N.

> *In any given year, thousands of chronically ill people die whose lives could have been saved through the generosity of others.*

Organ Donation Awareness Week

On March 6, 1985, Governor John Ashcroft signed a proclamation congratulating the MSMA Auxiliary for its efforts, and declaring the week of April 21-27, 1985 as Organ Donation Awareness Week in Missouri. "Love Life and Share It," a public information campaign, will be implemented throughout the state by the Missouri State Medical Association Auxiliary and corresponding county auxiliaries. The campaign will run concurrently with National Organ Donation Awareness Week as proclaimed by President Ronald Reagan.

In any given year, thousands of chronically ill people die whose lives could have been saved through the generosity of others. As many as 25 tissues and organs can be transplanted, including kidneys, corneas, heart, heart-lung, liver, pancreas, skin, bone, bone marrow, heart valves, pituitary glands, middle ears, and blood components for cancer patients.

The Boone County Medical Society Auxiliary accepted the challenge of spearheading this statewide public information and education program on Organ Donation Awareness in February 1984. To assist individual auxiliaries with their community education programs, they have developed a 17 minute slide/tape program which is also available on videotape. This is appropriate for use with junior and senior high students and the general public, and can be reserved through Jennifer or Pam for your use.

A project kit has also been prepared which contains brochures, buttons, pertinent literature and a comprehensive planning manual which covers the medical, educational, legal, religious, and ethical aspects of organ donation and transplantation. Included is a listing of resource organizations in your local area, and detailed suggested project activities. A color-coded press kit will serve as a practical tool for aiding auxiliaries in organizing an effective media campaign. The manual, unveiled at the MSMA Auxiliary 1984 Fall Conference, has generated a great deal of interest and enthusiasm among various national and state health organizations. Particularly noteworthy is the first place award, in the Category of Eye Donor Campaign, awarded by the Eye Bank Association of America at its annual meeting held in November 1984.

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Guest Article

Gary L. Wortman, CPA
Springfield

What to Look for in a Personal Financial Plan

Mr. Wortman is with the accounting firm of Baird, Kurtz & Dobson, CPAs, Springfield, Missouri. He is a member of the Missouri Society of CPAs Writer's Bureau.

A popular concept these days is personal financial planning. The keen interest many of us have in the national economy and federal deficit reduction is paralleled by a desire to get our own personal financial houses in order.

It's safe to say that the more money one makes, the greater the need for a written personal financial plan. A plan that provides for periodic review by a professional planner or financial advisor will allow you to adjust to changing laws, business regulations, inflation rates, and investment opportunities. Commitment to such a plan will increase your chances of protecting individual wealth and achieving your financial goals.

The tendency is to go through life reacting to circumstances as they occur, giving very little thought to how we can control some of these. Control begins by establishing detailed financial objectives for the short term, say, the next five years.

Your objectives may include achieving a certain percentage of growth in your investments, saving to build or purchase a new house, expanding your practice, building a college fund for your children or planning for an early retirement. Whatever your goals and objectives, they are the foundation on which your financial plan is prepared.

List all you own and all you owe. Your assets at fair market value minus your total liabilities is your net worth. Knowing your net worth helps you put the value of your estate into perspective. Knowing your net worth each year helps you measure the success of your financial plan.

Be realistic about expected future increases in money coming in and thorough in estimating present and future commitments. From these projections, your financial planner can estimate the impact of income taxes and inflation and can help determine your discretionary income, which is an important element in developing your investment strategy.

In addition to projecting your income, you should list the contributions made to you or on your behalf by your employer or business, such as a company car, all-expense-paid travel to conventions, a membership at a country club, company-paid insurance, stock, even company-supported recreational facilities.

Discretionary income is the money you have left over after meeting all your obligations. From it you pay for vacations, entertainment, hobbies, gifts, home improvements, new cars and investments. Often, through the process of developing a financial plan, your financial planner will be able to identify ways to lower your committed expenses and thereby increase your discretionary income.

A well-developed financial plan will contain a careful analysis of your insurance needs. It's easy to overlook property and casualty insurance needs, for example, and assume that we are adequately covered. Examine your policies to make sure that you are insured at current fair market values.

Life insurance is another important consideration. Your financial planner will help you identify the best type of insurance for your needs. In general, though, you may need life insurance to provide for four basic requirements: (1) immediate expenses following death, (2) mortgage indebtedness, (3) children's educational needs, (4) continuing income for your surviving spouse.

The objectives of income tax planning within your financial plan are to preserve wealth, defer income or avoid taxes. Your tax bill is actually one of the few expenses that you, in part, can control. Like some of your other expenses, careful planning will help you control this expense better and, in many cases, lower it.

Approaches to these objectives include timing income and deductions, obtaining tax-exempt income, using tax-advantaged investments, obtaining capital gains in lieu of ordinary income, using gifts and using trusts. Here again, your financial planner will help you identify the approaches most beneficial to your goals.

An investment strategy will help eliminate the weaknesses in your financial situation and increase its strengths. You will, of course, have certain investment preferences, such as real estate, money markets, mutual funds or options and futures markets.

In addition to personal preferences, your investment strategy will be based on how you feel about taking risks, your income needs from your investments, the time frame for the investments you might select, your stage of life, the size of your investment portfolio and the percent of your investment assets to total assets.

Your financial plan should include a projection of your financial requirements for retirement, whether it be early retirement, entry into a second career or full retirement. Likewise, it should include provisions for disability, death and the management of your estate. Remember that your estate is not merely a vehicle to provide for survivors. It exists now, and consequently, you can do things today to avoid taxes now and to avoid estate taxes when you die.

These are the components of a sound financial plan. A final point to remember in developing a personal financial plan is to remain flexible. No single plan will last you a lifetime. As you pass through the various stages of life, your needs, wants and desires will change, and so must your plan to accurately reflect your changing situation. Your financial affairs will always remain in a state of flux, but a personal financial plan will help you manage those changes more wisely. ■

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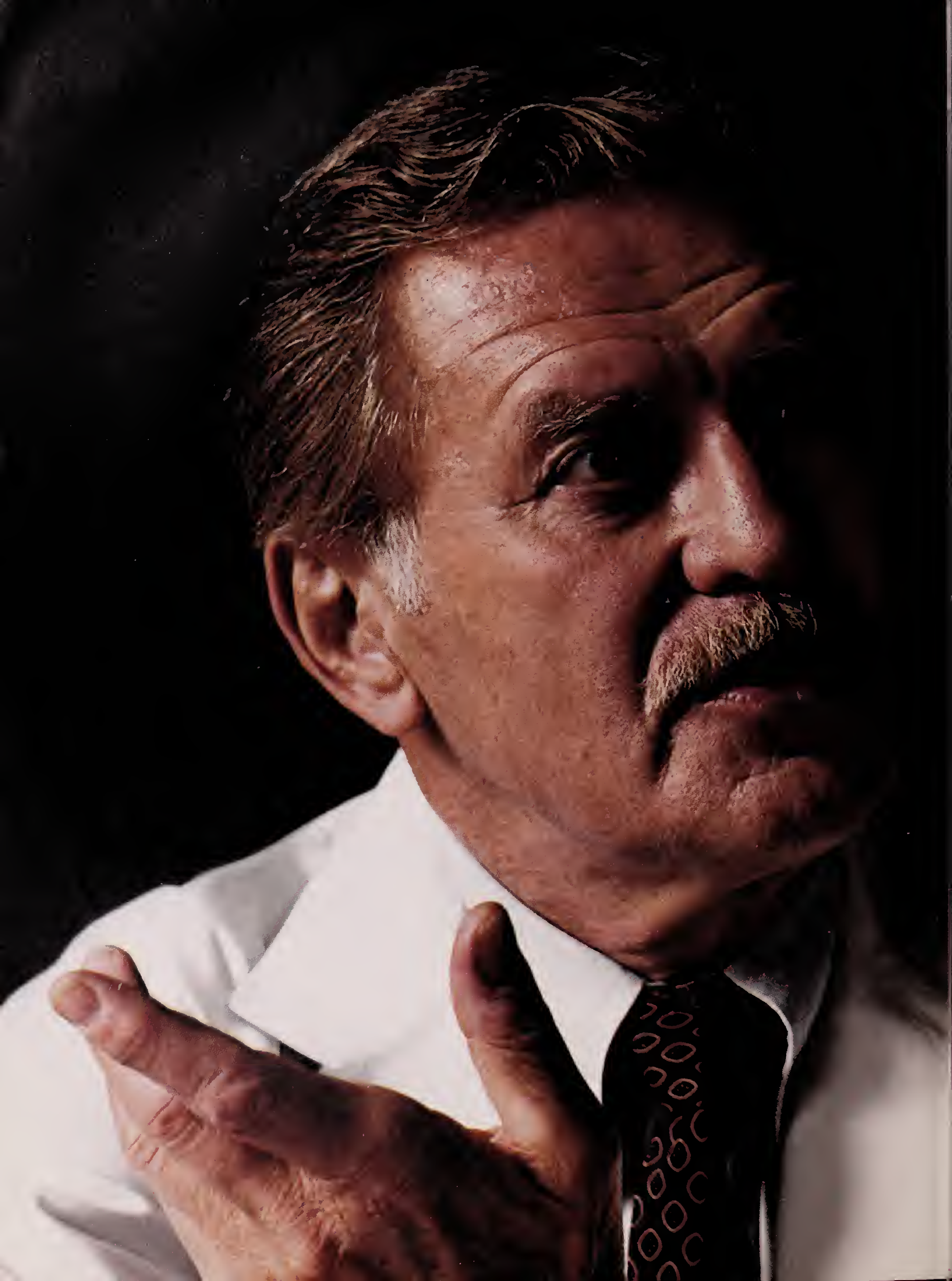

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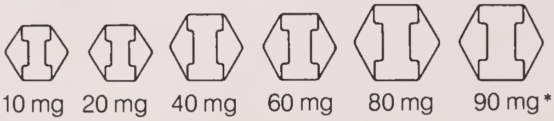

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INDERAL is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL

WARNINGS

CARDIAC FAILURE Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure Although beta blockers should be avoided in overt congestive heart failure, if necessary they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure Therefore, at the first sign or symptom of heart failure the patient should be digitalized and/or treated with diuretics, and the response observed closely or INDERAL should be discontinued (gradually, if possible)

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks and the patient should be cautioned against interruption or cessation of therapy without the physician's advice If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors

MAJOR SURGERY The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures

INDERAL, like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, e g , dobutamine or isoproterenol However, such patients may be subject to protracted severe hypotension Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers

DIABETES AND HYPOGLYCEMIA Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes In these patients, it may be more difficult to adjust the dosage of insulin

THYROTOXICOSIS Beta blockade may mask certain clinical signs of hyperthyroidism Therefore abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm Propranolol does not distort thyroid function tests

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker In one case this resulted after an initial dose of 5 mg propranolol

PRECAUTIONS

General Propranolol should be used with caution in patients with impaired hepatic or renal function INDERAL is not indicated for the treatment of hypertensive emergencies

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure Patients should be told that INDERAL (propranolol hydrochloride) may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure

Clinical Laboratory Tests Elevated blood urea levels in patients with severe heart disease elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase

DRUG INTERACTIONS Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension

Carcinogenesis, Mutagenesis, Impairment of Fertility Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity There were no drug-related tumorigenic effects at any of the dosage levels Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

Pregnancy Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus

Nursing Mothers INDERAL is excreted in human milk Caution should be exercised when INDERAL is administered to a nursing woman

Pediatric Use: Safety and effectiveness in children have not been established

ADVERSE REACTIONS

Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy

Cardiovascular bradycardia, congestive heart failure; intensification of AV block, hypotension, paresthesia of hands, thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type

Central Nervous System Lightheadedness, mental depression manifested by insomnia, lassitude, weakness, fatigue, reversible mental depression progressing to catatonia, visual disturbances, hallucinations, an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics

Gastrointestinal nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis

Allergic pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress

Respiratory bronchospasm

Hematologic agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura

Auto-Immune In extremely rare instances, systemic lupus erythematosus has been reported

Miscellaneous alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

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James W. Bagby, M.D.
St. Louis

Nouméa, New Caledonia During WW II

Dr. Bagby was formerly Commander Medical Corps, United States Naval Reserve. He is also Emeritus Associate Professor of Medicine (Dermatology) at Washington University School of Medicine.

In 1944 I spent three weeks in the city of Nouméa, the capital of New Caledonia, awaiting transportation home from the South Pacific. Nouméa is about 22 degrees south of the equator and located roughly between Australia and the Fiji Islands. The island is a French protectorate. The population at the time was about one-third French and two-thirds Melanesian. The climate was very pleasant, much better than Tulagi where I had been stationed while serving as dermatologist with an advance base Naval Hospital.

In particular, there were two things about Nouméa which I found interesting from a medical viewpoint. These were the Pink House and the leprosy problem.

The Pink House

While looking about for something to do, I met a U. S. Navy doctor who was in charge of prophylaxis for venereal disease at the Pink House. The Pink House was a large compound surrounded by a 15-foot high pink masonry wall topped with broken champagne bottles set in cement. The building was operated as a bordello before the war and I assume it is still used for the same purpose.

The doctor's job was to examine the prostitutes once a week for syphilis and gonorrhea. Genital herpes was not widely recognized in 1944. The doctor invited me to go with him on a routine examination of the five girls. During the examinations the house was closed until it was determined there were no problems, and the Navy corpsmen who passed out prophylactics were questioned, to be sure they were doing their jobs properly.

Following the examinations, the Madam took us to the dining room and I was seated next to one of the girls. She spoke English fairly well and could understand my college French. From her, and from the Madam who also spoke English, I learned how the house operated. It was open for customers from 10 a.m. to 3 p.m. only. After that the large iron gates were locked in order to exclude drunks who would appear later in the day. Each girl serviced about 12 men per hour. The men were charged $5 each. The girl kept $2; the Madam, $2.50; and the French government $.50. Other girls were on call when one of the regulars was "feeling poorly" once a month. If a sailor complained, his money was refunded.

The Leprosy Problem

I was amazed at the prevalence of leprosy in Nouméa. Five percent of the native and three percent of the white population suffered from the disease. Only patients with open draining lesions were confined to the island's two leprosaria, one for natives and one for whites. Patients with leprosy, but without open lesions, could be seen on the streets daily.

I inquired about the management of the leprosaria from the French doctor who supervised the hospitals and treated all the patients. He spoke some English and seemed very pleased to show me around. The tour of the hospitals took three or four days and I was appalled at the conditions I saw. Physically, both the native and white patients seemed to receive good care. Their bandages were clean and they seemed well nourished; however, there were no screens and flies were everywhere. There were indoor toilets but sewage ran through open ditches to the bay, a distance of about 200 yards. Most patients received daily oral doses of Chaulmoogra oil, at that time the only remedy thought to be of benefit, antedating the sulfone drugs.

During my visits to the leprosaria, we examined from 300 to 400 patients. At quarters each evening I burned my clothes and shoes in the incinerator and the next day obtained new issue from the Navy supply depot. Leprosy, or Hansen's disease, as it is now called out of deference to those who have it, is not thought to be highly contagious but I heard of a missionary's son who, at the age of eight years, spent one night in a house where infected persons lived and, twenty years later, developed the disease. I did not care to take unnecessary chances.

After those three weeks in Nouméa I sailed back to San Francisco with some of the Sixth Marine Division on the captured Italian luxury liner, the Conti di Savoia. The Golden Gate, approached from the west, was the most beautiful and welcomed sight I've ever seen. ■

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Special Article

A Look into the Future for Hospitals and Physicians

C. Duane Dauner
Jefferson City

Mr. Dauner is president of the Missouri Hospital Association.

During the 20 years since Medicare was enacted into law, futurists have predicted that we were reaching the peak of change in health care. Repeatedly, history has proven them wrong.

The change wrought by Medicare was increased accessibility, but little else. The availability of federal funds and expanded expectations created the philosophy of more and more care for more and more people. While the tacitly-adopted philosophy that health care is a right has had profound effects, there have been few changes in the structure of the health care system.

Until now, health care has been provided in a seller's market. Growth in the demand and supply sides of the health care equation, coupled with space-age advances in technology, have produced a high-option delivery system. Financing has trailed expenditures dramatically, producing a growing gap.

Social values overshadowed financial considerations through the 1960s and most of the 1970s. In the mid-70s priorities began to shift. The continuous ratcheting of payments by Medicare and Medicaid increased the cost shift to the point that the private sector — payers, employers and labor — decided the old policies had to change. These pressures, a growing federal deficit, the rapidly growing universe of Medicare beneficiaries and horizontal expansion in the delivery system began to collide by 1980. A national recession exacerbated the situation.

In 1982, Congress passed a massive bill entitled the Tax Equity and Fiscal Responsibility Act (TEFRA). It set in motion the first structural changes in Medicare since its adoption in 1965. TEFRA changed the reimbursement system to hospitals from payments for units of service on a reasonable cost basis to an institution-specific, flat payment per case. Just nine months later, Congress converted TEFRA to a prospective payment system (PPS) geared to 467 diagnosis-related groups (DRGs). This diagnosis driven system appears to be more precise than TEFRA, but the incentives are similar. The government's objective in setting per-case prospective rates is to curb utilization of hospital inpatient services by creating financial incentives to change the behavior of providers.

In addition to creating a price-driven system, the government established a watchdog, the peer review organization (PRO) program. Its intent is to control the other major factor in the health care cost equation — utilization. Private sector review programs will have equal impact on non-Medicare patients.

The temporary freeze on payments to physicians which was enacted in 1984 is a preview of things to come. The Health Care Financing Administration (HCFA) will submit recommendations to Congress in June 1985 to pay physicians on a prospective basis for services rendered to Medicare inpatients. As soon as the government enacts a program to limit payments to physicians through the establishment of per-case prices, private insurers and employers will follow suit.

The private sector's aggressiveness has equaled that of the federal government in recent years. Starting with self-insurance programs, employers have altered

> "By reducing costs, hospitals have been able to maintain full services. But for how long?"

benefit plans and joined together in coalitions to generate buying power. They are collecting data on hospitals and physicians, negotiating discount packages for their employees, and establishing preferred provider organizations (PPOs), health maintenance organizations (HMOs), prepaid group arrangements and other competitive medical plans (CMPs). To the surprise of many, health care providers are participating in these marketplace plans and even creating their own.

The tide has turned. As we rush into a buyer's market, we are experiencing the distortions and problems that other deregulated industries such as banking, airlines and real estate have encountered in the marketplace. Physicians and hospitals must keep the fundamental principle in focus, however, during this revolutionary era: health care is an essential service for society which must be maintained in sufficient quantity and quality to serve the public interest. We do not have the luxury of partial system failure in health care.

The Challenge of Change

The Medicare PPS program was launched on October 1, 1983. During the first 18 months of the program, most hospitals fared reasonably well. Of the 165 Missouri community hospitals, one has closed and one was reorganized after claiming bankruptcy. The majority are surviving because of internal behavioral changes. Nearly 6% of the hospitals' work force has been laid off, capital expenditures have been delayed and other management-controlled cutbacks have been implemented. By reducing costs in such ways, hospitals have been able to maintain full services. But for how long? It is impossible to make similar cutbacks year after year. Rationing of care is inevitable when inadequate payments force downsizing to the degree that different levels of care emerge.

Another major problem is the unexpected drop in hospital utilization by the under-65 population group as well as Medicare patients. The explanation seems to lie in changing physician patterns, marketplace forces in the private sector, willingness of patients to accept alternatives to hospitalization, changes in insurance benefits and explosion of alternative services.

The combined forces of Medicare and private sector initiatives will cause more hospital closings, conversions, sales and reallocation of resources. These developments alone will not suffice, however. Hospitals must look to non-bed services for financial support. Conflict between physicians and hospitals can develop unless both are respectful of the other's role, individually and collectively.

Pressures on hospitals can be divided into four major categories: economics, services, control and quality of care. The system is being driven by economic pressures and it is clear that delivery systems follow financing mechanisms. PPOs, HMOs and CMPs are the most visible responses which have surfaced to date.

Services traditionally have been provided in distinct but complementary settings — hospitals, physician offices, nursing homes, etc. Now, the provider/service lines are getting fuzzy, and the future looks even more hazy. Services are being fragmented and providers are expanding into areas once considered sacred by other providers. Convenience clinics, cancer detection/therapy, magnetic resonance imaging and emergency centers are a few of many services that could be mentioned.

Control is critical in any organizational setting. For hospitals, the balance among the medical staff, governing body and management is under severe stress. While the Missouri hospital licensing law and regulations make it clear that the governing body controls the hospital, day-to-day operations may present a somewhat different view. A cooperative relationship among the components is necessary for sound decisions relative to capital, priorities, services, staffing, supportive ventures and even the institution's mission.

Quality of care is taking on new dimensions as economic pressures intensify, utilization review and PRO activities increase and physician practice patterns change. While physicians have been the major determinants of quality, more parameters are affecting judgments about quality and who is involved in the decision-making process. This change may be difficult for hospitals and physicians unless the proper mechanisms are established to ensure that the best interests of all affected parties (particularly the patient) are considered. Recognition of the distinction between the provision of medical care and the practice of medicine is necessary to avoid unmanageable conflict.

The physician surplus will create new relationships. More doctors will bring about changes in the types of services offered and the ways in which they are delivered. Competition for hospital privileges may become commonplace in the most desirable locations. Closed staffs may result as well. Overreaction by hospitals or physicians to these phenomena could bring about rigid government controls, especially if cost increases return to the early 1980s level.

Social justice should prevail as the distortions of the current tort system are understood by the public. Malpractice premiums are skyrocketing because of increased frequency and severity of claims. While it is difficult to understand these losses when the quality of care is higher than ever before, one need look no further than the surplus of lawyers and the changing attitudes of the public toward litigation as an easy means of economic advancement.

Probably the most dramatic change will occur in joint hospital-physician ventures. It is important to separate business activities from organized hospital-medical staff functions; otherwise, the formal functions of the medical staff will become obstacles to free and innovative business arrangements. The farsighted hospitals and physicians will investigate all possible avenues for win-win arrangements. Individual physicians should have the opportunity to benefit from and participate in each jointly developed venture. The ultimate system to be created by physicians, hospitals and their joint ventures should encompass every aspect of health, covering people from birth to death. Through "circle of care" systems, physicians and hospitals can protect the high values of health care and maintain their leadership roles.

An often misunderstood factor in the hospital industry is ownership. Until 1983, the distinction between not-for-profit and investor-owned hospitals seemed clear. As incentive pricing practices, prepaid programs and marketplace forces influence health care, differences among not-for-profit and investor-owned hospitals are fading. Not-for-profit systems are competing with investor-owned chains, and their behavior patterns are similar. Merely surviving will give way to thriving as the basic driving force in hospitals.

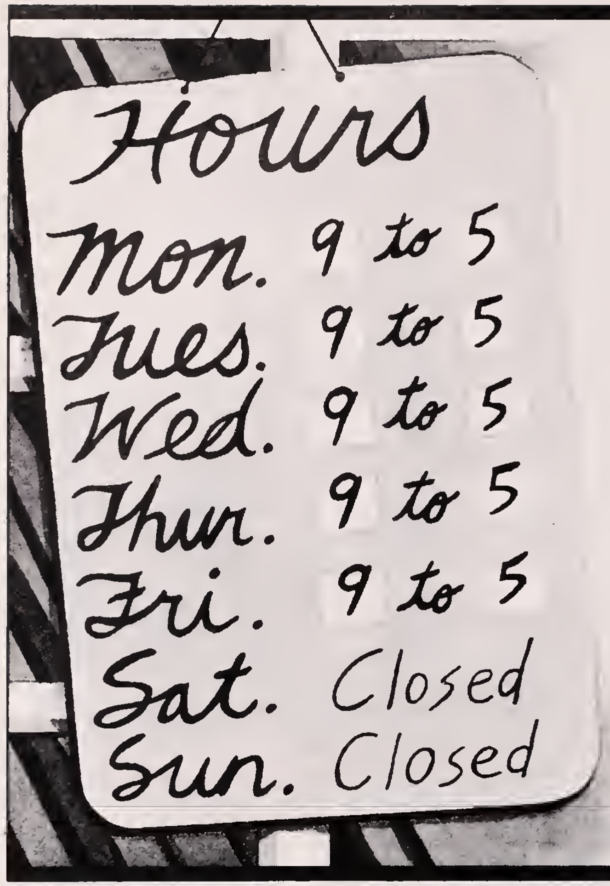
It appears that three levels of health care systems will emerge: national, regional and local. National systems are characterized by centralized policies and brand name health care marketed and delivered by organized groups with delivery outlets in major population centers. Regional networks are trying to capitalize on name and quality identification but maintain individual visibility. Local systems may be single-hospital or multi-hospital based. Reputation, track record and constituency allegiance are their trademarks. They are likely to enjoy more success in smaller communities and in urban areas where a solid community base has been established. In all three levels, price competition, advertising and market segmentation, joint provider ventures and vertically-integrated systems are probable.

Access to capital has emerged as a significant factor in system alignments. As we move from capital intensive motivations, it is likely that the pendulum will swing back to values of quality and access to care. In any event, pricing will play an increasingly important role, as will market segmentation and distribution of limited financial resources.

The Opportunity of Change

One thing is clear — the structural changes which have been put in place since 1982 and the emergence of marketplace forces will cause health care financing and delivery to change more in the next 10 years than has been experienced in the previous 50 years. Too many economic and social forces have been set in motion by government and the private sector to avoid revolutionary changes.

Hospitals and physicians must recognize their independence, dependence and interdependence. Through careful structuring of joint ventures and coordination of the practice of medicine and other health care services, physicians and hospitals can achieve their shared personal and institutional goals of excellence in medicine and patient care. Clearly, we are on the threshold of this nation's most exciting era in medicine. ■



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INDICATIONS AND USAGE: These preparations are indicated for the treatment of infections caused by susceptible strains of designated microorganisms as follows: Respiratory Tract Infections (e.g., tonsillitis, pharyngitis, and lobar pneumonia) due to *S. pneumoniae* (formerly *D. pneumoniae*) and group A beta-hemolytic streptococci [penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever; Velosef (Cephradine, Squibb) is generally effective in the eradication of streptococci from the nasopharynx; substantial data establishing the efficacy of Velosef in the subsequent prevention of rheumatic fever are not available at present]; Otitis Media due to group A beta-hemolytic streptococci, *H. influenzae*, staphylococci, and *S. pneumoniae*; Skin and Skin Structures Infections due to staphylococci and beta-hemolytic streptococci; Urinary Tract Infections, including prostatitis, due to *E. coli, P. mirabilis, Klebsiella* species, and enterococci (*S. faecalis*).

Note: Culture and susceptibility tests should be initiated prior to and during therapy.

CONTRAINDICATIONS: In patients with known hypersensitivity to the cephalosporin group of antibiotics.

WARNINGS: *Use cephalosporin derivatives with great caution in penicillin-sensitive patients since there is clinical and laboratory evidence of partial cross-allergenicity of the two groups of antibiotics; there are instances of reactions to both drug classes (including anaphylaxis after parenteral use).* In persons who have demonstrated some form of allergy, particularly to drugs, use antibiotics, including cephradine, cautiously and only when absolutely necessary.

Pseudomembranous colitis has been reported with the use of cephalosporins (and other broad spectrum antibiotics); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with antibiotic use. Treatment with broad spectrum antibiotics alters normal flora of the colon and may permit overgrowth of clostridia. Studies indicate a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis. Cholestyramine and colestipol resins have been shown to bind the toxin *in vitro*. Mild cases of colitis may respond to drug discontinuance alone. Manage moderate to severe cases with fluid, electrolyte and protein supplementation as indicated. Oral vancomycin is the treatment of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile* when the colitis is severe or is not relieved by drug discontinuance; consider other causes of colitis.

PRECAUTIONS: General: Follow patients carefully to detect any side effects or unusual manifestations of drug idiosyncrasy. If a hypersensitivity reaction occurs, discontinue the drug and treat the patient with the usual agents, e.g., pressor amines, antihistamines, or corticosteroids. Administer cephradine with caution in the presence of markedly impaired renal function. In patients with known or suspected renal impairment, make careful clinical observation and appropriate laboratory studies prior to and during therapy as cephradine accumulates in the serum and tissues. See package insert for information on treatment of patients with impaired renal function. Prescribe cephradine with caution in individuals with a history of gastrointestinal disease, particularly colitis. Prolonged use of antibiotics may promote the overgrowth of nonsusceptible organisms. Take appropriate measures should superinfection occur during therapy. Indicated surgical procedures should be performed in conjunction with antibiotic therapy.

Information for Patients: Caution diabetic patients that false results may occur with urine glucose tests (see PRECAUTIONS, Drug/Laboratory Test Interactions). Advise the patient to comply with the full course of therapy even if he begins to feel better and to take a missed dose as soon as possible. Tell the patient he may take this medication with food or milk since G.I. upset may be a factor in compliance with the dosage regimen. The patient should report current use of any medicines and should be cautioned not to take other medications unless the physician knows and approves of their use (see PRECAUTIONS, Drug Interactions).

Laboratory Tests: In patients with known or suspected renal impairment, it is advisable to monitor renal function.

Drug Interactions: When administered concurrently, the following drugs may interact with cephalosporins:

Other antibacterial agents — Bacteriostats may interfere with the bactericidal action of cephalosporins in acute infection; other agents, e.g., aminoglycosides, colistin, polymyxins, vancomycin, may increase the possibility of nephrotoxicity.

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Carcinogenesis, Mutagenesis: Long-term studies in animals have not been performed to evaluate carcinogenic potential or mutagenesis.

Pregnancy Category B: Reproduction studies have been performed in mice and rats at doses up to 4 times the maximum indicated human dose and have revealed no evidence of impaired fertility or harm to the fetus due to cephradine. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

Nursing Mothers: Since cephradine is excreted in breast milk during lactation, exercise caution when administering cephradine to a nursing woman.

Pediatric Use: Adequate information is unavailable on the efficacy of b.i.d. regimens in children under nine months of age.

ADVERSE REACTIONS: Untoward reactions are limited essentially to G.I. disturbances and, on occasion, to hypersensitivity phenomena. The latter are more likely to occur in persons who have previously demonstrated hypersensitivity and those with a history of allergy, asthma, hay fever, or urticaria.

The following adverse reactions have been reported following use of cephradine: G.I. — Symptoms of pseudomembranous colitis can appear during antibiotic therapy; nausea and vomiting have been reported rarely. Skin and Hypersensitivity Reactions — mild urticaria or skin rash, pruritus, joint pains. Hematologic — mild transient eosinophilia, leukopenia and neutropenia. Liver — transient mild rise of SGOT, SGPT, and total bilirubin with no evidence of hepatocellular damage. Renal — transitory rises in BUN have been observed in some patients treated with cephalosporins; their frequency increases in patients over 50 years old. In adults for whom serum creatinine determinations were performed, the rise in BUN was not accompanied by a rise in serum creatinine. Others — dizziness, tightness in the chest, and candidal vaginitis.

DOSAGE: Adults — For respiratory tract infections (other than lobar pneumonia) and skin and skin structure infections: 250 mg q. 6 h or 500 mg q. 12 h. For lobar pneumonia: 500 mg q. 6 h or 1 g q. 12 h. For uncomplicated urinary tract infections: 500 mg q. 12 h; for more serious UTI, including prostatitis, 500 mg q. 6 h or 1 g q. 12 h. Severe or chronic infections may require larger doses (up to 1 g q. 6 h). For dosage recommendations in patients with impaired renal function, consult package insert.

Children over 9 months of age — 25 to 50 mg/kg/day in equally divided doses q. 6 or 12 h. For otitis media due to *H. influenzae*: 75 to 100 mg/kg/day in equally divided doses q. 6 or 12 h but not to exceed 4 g/day. Dosage for children should not exceed dosage recommended for adults. There are no adequate data available on efficacy of b.i.d. regimens in children under 9 months of age.

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Disappearing Right Atrial Thrombus

Steven K. Krueger, M.D., Robert R. Stuber, M.D., and
Joseph Colwell, R.C.T., R.D.M.S.
St. Joseph, Missouri

The case of a patient with right atrial thrombus is presented. One day after his admission to the hospital, a repeat echocardiogram showed that the large thrombus had disappeared, with no accompanying change in symptoms. Echocardiography is recommended as a reliable method of diagnosing right atrial thrombus.

Pulmonary embolus and death complicate right atrial thrombus.[1] The diagnosis has been uncommon and in most of the reported cases the thrombus originated in the right atrium.[1-6] We describe a patient with a large right atrial thrombus that probably embolized from the leg. It was detected echocardiographically and disappeared without evidence of the anticipated complications.

Case Report

A 72-year-old man with chronic atrial fibrillation was admitted with a 5-month history of progressive shortness of breath, nonproductive cough, fatigue, and a 10-pound weight loss. Two months prior to admission, he had experienced mild trauma to his right leg. A vague discomfort in his right calf followed. No other symptoms of pulmonary embolus or deep venous thrombosis were present.

Physical examination revealed a clear lung field, a grade II/VI systolic ejection murmur at the base which radiated to the axilla, and varicose veins without evidence of deep venous thrombosis. No findings of tricuspid regurgitation were noted.

Chest x-rays showed prominent hilar vessels. The electrocardiogram was normal except for atrial fibrillation. Arterial blood gases on room air showed pH = 7.47, P_{CO_2} = 33, P_{O_2} = 74. Results of a right leg impedance plethysmogram showed an abnormal rise and fall. A lung scan performed two hours prior to the echocardiogram revealed defects in the right, middle and lower lobes. Segmental defects were noted in the right upper and left lower lobes. A minimally slowed wash-out of the upper lobe was seen on the ventilation scan.

Two-dimensional echocardiography revealed biatrial enlargement and a large (3 × 6 cm) mass in the right atrium which was free-floating and at times appeared to rotate. The mass assumed multiple shapes and intermittently prolapsed into the right ventricle. (Fig. 1A-1C) It was recorded from all imag-

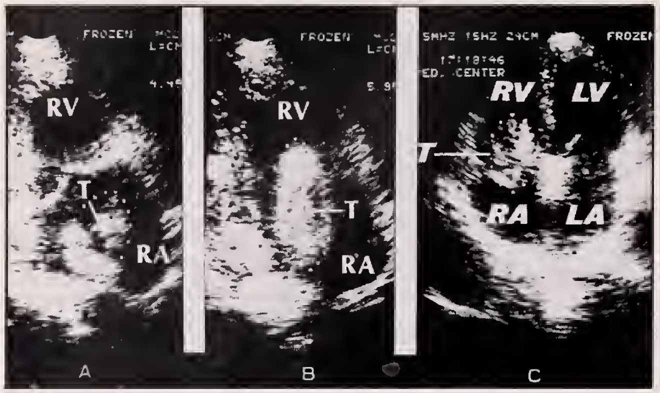

Figure 1 (A) Right ventricular in-flow tract view showing the thrombus coiled into the right atrium with the tricuspid valve closed. **(B)** Right ventricular in-flow tract view showing a large, rounded thrombus "T" outlined with dots prolapsing into the right ventricle "RV." **(C)** Four-chamber view showing the thrombus prolapsing into the right ventricle. LA = Left Atrium. LV = Left Ventricle. RA = Right Atrium. RV = Right Ventricle. T = Thrombus.

ing positions. The inferior vena cava could not be seen.

Anticoagulation therapy was instituted. In the next 24 hours symptoms were unchanged and the patient was transferred to another institution for possible surgical intervention. Venography confirmed the presence of a large thrombus in the right calf and thigh. Results of a repeat lung scan were identical to those of the prior scan. An echocardiogram revealed no evidence of the thrombus recorded 24 hours earlier. The patient was discharged on a regimen of Coumadin and was asymptomatic three months later.

Discussion

Echocardiography provides a reliable, noninvasive method of ante mortem diagnosis of a right atrial thrombus.[1-4] Few such thrombi have been reported but most appeared to be, or were documented to be, attached to the right atrial wall[1-6] and appeared to have originated in the right atrium.[1-5] Primary formation of the thrombus in the right atrium of this patient with atrial fibrillation is possible, but we feel embolization from the right leg is a more likely explanation. The spinning of the mass in the atrium suggests it was free-floating and adds credibility to the embolization theory.

Differentiation of thrombus from artifact, myxoma, tumor, vegetation and normal right atrial structure such as eustachia valve, septal aneurysm and the Chiari's network usually should be possible.[4-5] Imaging at multiple locations and angles as well as tracking of the mass would be helpful. If the mass is free-floating, thrombus is the most likely diagnosis.

Sudden death, systemic (paradoxical) and pulmonary embolus are documented complications of right atrial thrombus.[1, 3, 6] However, the natural history of these thrombi is not well known.

In this case, the clot disappeared without change in the symptoms or the lung scan. We doubt this huge thrombus dissolved in 24 hours as a result of only heparin therapy. The best explanation of its disappearance is embolization. Decreased flow to an embolized pulmonary artery makes re-embolization to that same vessel unlikely. Alternatively, fragmentation of the embolus into multiple emboli too small for lung scan detection is a more plausible theory.

Thrombi remain in the right atrium because they are attached to the right atrial or inferior vena cava wall or are too large to traverse the tricuspid valve orifice during diastole. In either case, thrombolysis would be hazardous. The attachment point could dissolve before the entire thrombus dissolved, resulting in an embolus. If the clot were free-floating and became smaller as a result of thrombolysis, it could cross the tricuspid valve and embolize to the lung.

Pulmonary angiography remains the most reliable technique for the diagnosis of pulmonary embolus. However, catheter dislodgement and embolization of thrombus are potential complications of angiography in patients with right atrial thrombus. Catheter manipulation through the right atrium may also be difficult in these patients. We feel two-dimensional echocardiography should be done prior to the catheterization of the right side of the heart in patients with suspected pulmonary embolus.

Echocardiography is a reliable, noninvasive technique for the diagnosis of right atrial thrombus. Although this patient survived with anticoagulation therapy alone, we believe surgery is usually indicated. Thrombolytic therapy is contraindicated. Echocardiography before catheterization of the right side of the heart could prevent the life-threatening complication of the pulmonary angiogram.

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The authors would like to thank Arthur D. Hagen, M.D., for his helpful comments.

Mycosis Fungoides in Husband and Wife

Wilfred E. Wooldridge, M.D., and Ernest Lorenc, M.D.
Springfield, Missouri

Although mycosis fungoides has been reported in blood-related family members, this is the first reported case of a husband and wife with the disorder. The possible application of evolving concepts of viral causation to this couple's case is discussed.

It is not unusual to find blood-related family members with various lymphomas.[1] These findings have stimulated interest in the human T-cell leukemia-lymphoma virus (HTCL) as a possible causative agent in a subset of mycosis fungoides patients. Also, a unique C-type retrovirus has been found associated with cells isolated from patients with mycosis fungoides and with the Sezary syndrome,[2-4] and retrovirus antibodies have been found in family members and close associates of patients with human T-cell leukemia-lymphoma disease.[5]

In addition, there have been several reports of mycosis fungoides occurring in blood-related family members.[6-10]

With these implications of viral causation in mycosis fungoides it has been of interest to us to have cared for a husband and wife, both of whom developed clinical and histologically confirmed mycosis fungoides. These patients were first seen long before a viral etiology was suspected. Neither case represented the rapidly evolving and quickly fatal, treatment-resistant HTCL variety but, instead, both are typical of the usual, chronic mycosis fungoides familiar to all experienced clinicians. There is no such pair recorded in the files of the National Institutes of Health[11] nor in those of the New York University School of Medicine.[12] As recently as February 1984, Edelson stated, "No instance has been reported where the spouse of a typical CTLC (cutaneous T-cell lymphoma) patient has ever developed CTLC despite continued exposure to long-standing skin lesions loaded with malignant cells."[13]

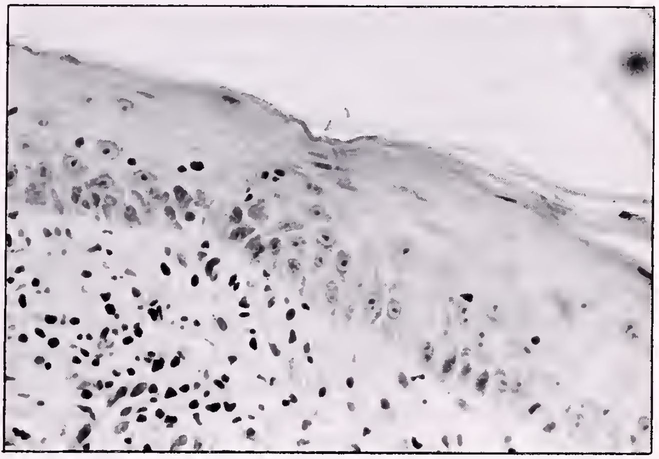

Figure 1. A lymphohistiocytic infiltrate containing a few atypical mononuclear cells. Scattered atypical mononuclear cells in the epidermis.

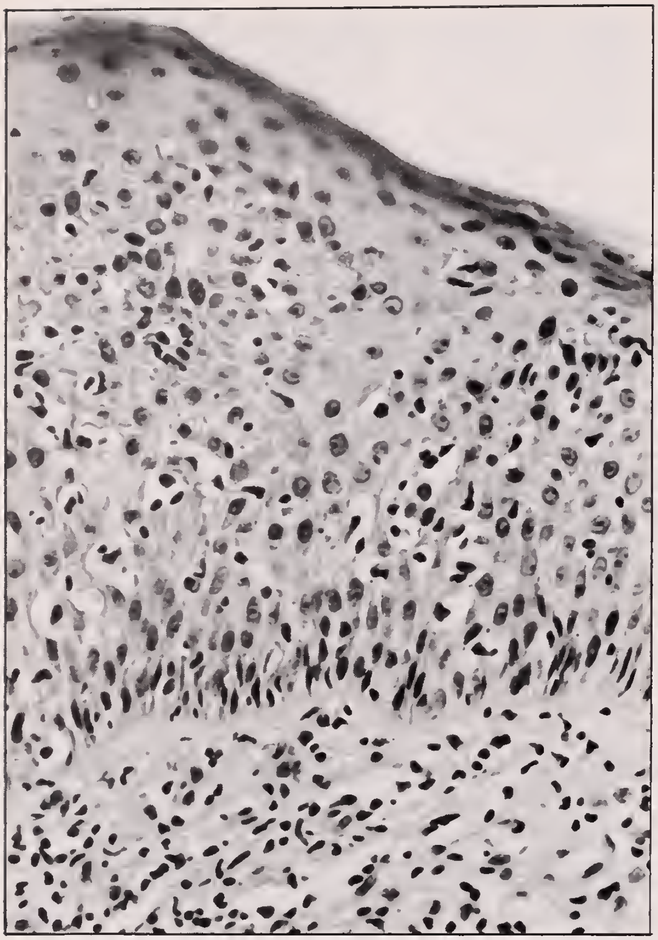

Figure 2. A lymphohistiocytic infiltrate containing scattered atypical mononuclear cells. Atypical mononuclear cells in the epidermis, some occurring in groups.

Case Reports

Case 1. A 53-year-old white woman was first seen in 1961 with moderately pruritic, superficial, scaling lesions chiefly located on the extremities. The first skin biopsy revealed only a minimal, superficial, lymphohistiocytic infiltrate with no abnormal lymphocytes and no cellular invasion of the epidermis.

The status of the patient remained unchanged for six years, after which lesions became more erythematous and pruritic. A second skin biopsy specimen was then diagnosed as mycosis fungoides by R. K. Winkelmann, M.D., of the Mayo Clinic, and also by M. A. Legg, M.D., of New England Deaconess Hospital, Boston (Figure 1).

Courses of electron beam therapy in 1967, 1968 and 1969 each resulted in diminishing improvement. Topical treatment with mechlorethamine hydrochloride (nitrogen mustard) was then given for four years until the patient died of carcinoma of the colon. At laparotomy, no evidence of systemic lymphoma was seen.

Case 2. A 66-year-old white man, the husband of patient #1, was first seen in 1968. His solitary skin lesion, of four years duration, was located on the medial surface of the right thigh and measured 9 cm in diameter. The epidermis of this lesion was quite thin and studded with tiny telangiectases. A biopsy specimen was interpreted by us as possible parapsoriasis en plaques and by Dr. Winkelmann as "atrophic, or poikilodermoid, parapsoriasis."

After three years without treatment the lesion was found to have enlarged slightly and to have developed three small crusted areas. Biopsy specimens were taken from two of those areas. That material, together with the original biopsy sample, were reported by A. Bernard Ackerman, M.D., as "mycosis fungoides, patch-plaque stage" (Figure 2).

The thigh lesion was then treated with four lightly filtered 80-rad exposures of superficial x-ray, which caused improvement that has continued to the present time.

While it is true that instances of mycosis fungoides in husband and wife might be remotely possible from a statistical standpoint, it is thought that evolving concepts of possible viral etiology may explain this association, although neither of our patients were typical, either clinically or histologically, of the rapidly progressive and deteriorating variety of HTCL disease.

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Facial Prosthetics

T. Hewitt McElroy, D.D.S., and Oscar N. Guerra, D.D.S., M.S.P.H.
Columbia, Missouri

Facial prosthetics can play a large role in the cosmetic, functional and emotional rehabilitation of patients with facial disfigurement following surgical treatment of tumors of the head and neck. Proper planning of the medical and surgical treatment course facilitates the sculpting and wearing of a prosthesis and restores the patient's self-esteem and quality of life.

Surgical intervention for head and neck tumors, particularly for neoplasms involving facial skin and external structures, may result in facial disfigurement. Entire structures, such as the nose, an ear, or the contents of an orbit, may require removal for adequate resection of a tumor.

When plastic surgical reconstruction is unfeasible or contraindicated, facial prosthetic rehabilitation may serve as an adjunct or alternative to surgical rehabilitation. The appropriate application and combination of these rehabilitative modalities help to provide the best restoration of cosmesis and function.

Facial Prosthesis

A facial prosthesis is a non-living substitute for missing facial structures. Varieties of materials have been used for prosthesis in the past, but today silicone is used most often because of its desirable qualities in texturing and coloring, simplicity of technique, and biocompatibility. The prosthesis is retained with special adhesives and is removable, which facilitates cleaning of the prosthesis and examining and caring for the facial defect. A pattern that conforms to the margins of the defect is sculpted from wax or clay to replace the missing structure and its features. The pattern is then converted into a mold, which is used to process the silicone prosthesis. Color, characteristic markings and texture can be closely controlled to match the skin surrounding the defect. The patient is instructed in caring for and wearing the prosthesis. Periodically, the prosthesis may require tinting or remaking to conform to seasonal changes in skin coloration.

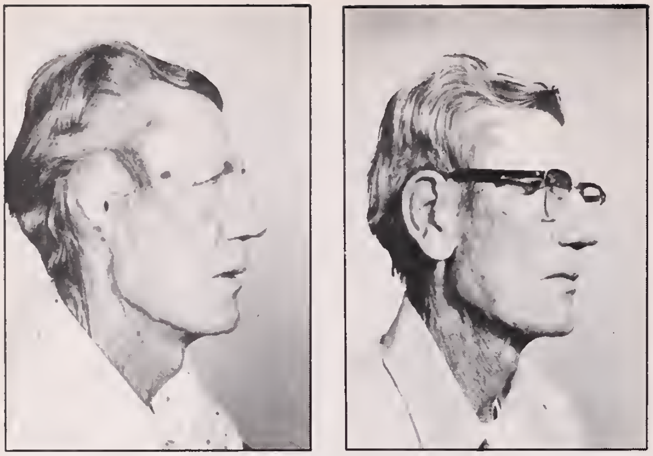
On occasion, a combination of facial and intraoral prostheses is required for rehabilitation. The intraoral prosthesis is made first to restore support and contour of the tissues surrounding the defect. Sometimes these prostheses can be fabricated to provide mutual mechanical retention in addition to the adhesive retention.

Indication of Need for Prosthesis

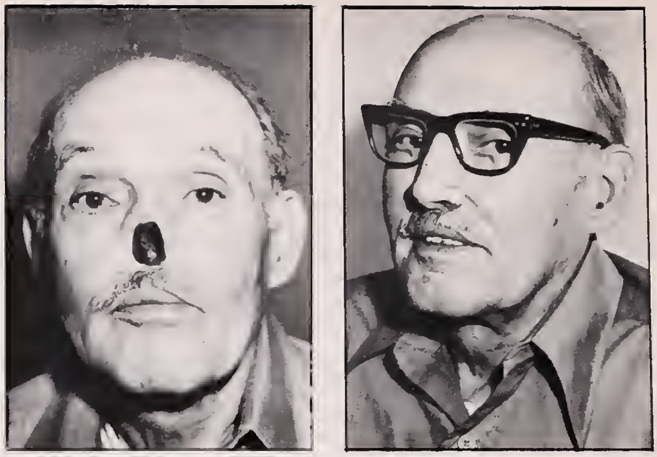
The need for prosthetic rehabilitation may be indicated when the feasibility of surgical reconstruction is limited. These limitations may include (1) a postoperative defect impossible to reconstruct due to its size, extent of missing supporting tissues or both, (2) missing facial structures, such as the contents of an orbit, which are impossible to reconstruct, (3) marginal tissues suspect for residual tumor cells or tumor recurrence, (4) lack of marginal tissue viability following radiation therapy, and (5) medical contraindications to elective surgery, such as severe cardiovascular or pulmonary disease. Additionally, prosthesis may be indicated as an interim rehabilitation measure until surgery becomes feasible, or it may be preferred when a patient cannot afford the costs of hospitalization and surgery.

Treatment Planning

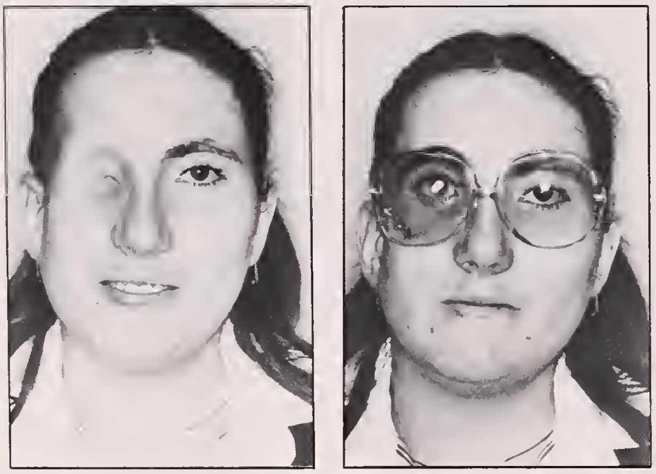
As a rule, surgical planning should be done with rehabilitation in mind. Just as the surgeon can establish favorable conditions for reconstruction when the tumor is resected, conditions can be established to facilitate the fabrication and wearing of a prosthesis. The surgeon and the maxillofacial prosthodontist must both examine and evaluate the patient prior to surgery, arrive at the best means of rehabilitation, and plan the surgical procedure accordingly.



Figures 1 and 2. (Left) Patient with a right auricular defect following total pinnectomy, superficial parotidectomy, and skin graft for epidermoid carcinoma of the right external ear. **(Right)** Patient with auricular prosthesis in place.



Figures 3 and 4. (Left) Patient with nasal defect following radiation therapy and partial rhinectomy for epidermoid carcinoma of the nasal septum. **(Right)** Patient with nasal prosthesis in place.



Figures 5 and 6. (Left) Patient with a right ocular defect and atrophic orbital structures following radiation therapy at a young age for rhabdomyosarcoma followed by enucleation of necrotic eye. **(Right)** Patient with orbital prosthesis in place.

Preoperative procedures carried out by the maxillofacial prosthodontist include examination of the patient and evaluation of the disease process. The patient is counseled about prosthesis and rehabilitation. When indicated, casts or models can be made of the facial structures that will be affected by surgery. For example, if total rhinectomy is planned, an impression of the nose can be made before surgery and used later to determine proper size and shape of the prosthesis.

The maxillofacial prosthodontist may recommend to the surgeon a means of enhancing defect preparation for prosthesis. Split thickness skin grafting over defect margins or denuded skin surfaces will enhance primary healing and will provide an ideal tissue bed for prosthesis retention and patient comfort.

Removal may be recommended for tissue or structures that may inhibit successful prosthetic treatment. Other structures may enhance prosthetic rehabilitation and should be conserved. For example, when removal of the external ear is necessary, a total pinnectomy may be recommended to eliminate unsupported cartilages that may make fitting the prosthesis difficult, while conservation of the tragus will provide a valuable landmark for prosthesis positioning.

The cooperative efforts of the surgeon and the maxillofacial prosthodontist facilitate quicker recovery and healing for the patient and provide optimal conditions for prosthetic rehabilitation. The need for corrective secondary surgical procedures is minimized or eliminated, patient awareness and compliance are improved through counseling and patient education, and ultimate rehabilitation and quality of life for the patient are enhanced.

Conclusion

In the treatment of patients with head and neck neoplasms, the surgical eradication of tumor is not enough to qualify as cure of the disease. All possible measures of rehabilitation must be taken to restore the patient cosmetically, functionally, and emotionally to acceptable levels of self-esteem, social activity, and quality of life. In this regard, facial prosthetics plays a valuable role, and the joint efforts of the surgeon and maxillofacial prosthodontist in management of patients with facial defects help to ensure optimal rehabilitation results.

The Authors

T. HEWITT MCELROY, D.D.S.
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Drs. McElroy and Guerra are maxillofacial prosthodontists with the Dental Oncology Department, Ellis Fischel State Cancer Center, Columbia. Dr. Guerra is chairman of the department.

Evaluation of Thyroid Nodules by Fine Needle Aspiration

James R. Etzkorn, M.D., and Vincent G. Palermo, M.D.
St. Louis, Missouri

The use of fine needle aspiration in evaluating thyroid nodules may eliminate some unnecessary surgery on such nodules, the majority of which are benign. In this study, 85% of the lesions evaluated by fine needle aspiration were diagnosed as benign, 13% as atypical, and 2% as malignant. Surgical follow-up on 35% of the benign group, and on all lesions in the remaining two groups confirmed the diagnoses.

Nodular thyroid enlargement occurs in 4% to 7% of the general population in the United States.[1] Although the management of non-malignant thyroid nodules is largely medical, surgical extirpation of malignant thyroid tissue plays a key role in the excellent prognosis associated with such neoplasms.[2, 3] The physician's dilemma is thus one of clearly identifying individuals with a curable malignant lesion and, at the same time, sparing the majority of individuals with benign lesions a surgical procedure.

Traditionally, the key steps in identifying thyroid malignancies have been history-taking, physical examination, radioisotope scanning, and sonography. Even with the appropriate application of these steps, however, 90% of individuals undergoing surgical procedures for potential thyroid malignancies have benign pathologic findings.

Recently several investigators in North America have reported excellent results in identifying thyroid malignancies using the technique of fine needle aspiration.[4-6] We report in this article our results with the first 100 such aspirations performed in our clinical practice.

Methods

The patients in this study were seen for evaluation of an enlarged thyroid, which in most cases was discovered by a referring physician. All patients who were seen between June 1982 and April 1984 had extensive histories taken and full physical examinations performed.

All patients also had thyroid function studies (T-4, RT3U, FTI) done. TSH levels and antithyroid antibody levels were studied when appropriate. All patients underwent thyroid scanning with I-123, and many had thyroid sonography studies performed. In each case, a cool or cold nodule was identified on the scan.

Thyroid aspirations were undertaken using a 22-gauge needle in a manner previously described.[5] Some patients experienced mild local ecchymoses, but there were no significant complications associated with the procedure. Cytology slides were prepared from the aspirate by one of two methods. Initially, the aspiration was performed with 1 to 2 ml of sterile saline in the syringe. The fluid was then passed through a Millipore filter that was fixed in 95% alcohol and stained by the Papanicolaou technique.

An alternative method consisted of aspirating with a dry syringe. The minute quantity of fluid retained in the needle was then squirted onto a dry glass slide, smeared, and immediately spray fixed. The standard Papanicolaou staining procedure was then employed. If the lesion was cystic and fluid aspirated, the Millipore filter technique was always employed.

Results

Sufficient sample for cytologic evaluation was obtained in 95 of 100 cases. Fifty-two of the patients were deemed, by fine needle aspiration, to have benign lesions which have responded to suppressive therapy, justifying postponement of any surgical procedure. Twenty-nine of the remaining 43 patients had aspiration results that were interpreted as benign. However, they failed to respond to suppressive therapy and thus underwent surgical extirpation of the residual tissue. All of the surgical specimens were pathologically benign and thus are considered to be true negatives.

Two patients were found on cytologic evaluation to have papillary carcinoma that was subsequently confirmed at surgery. These patients are considered to have true positive fine needle aspirations. Twelve patients (13%) were classified as having cytological findings suggesting carcinoma. During surgery, two of those (17%) were found to have thyroid carcinoma, while 10 were found to have benign lesions. In no case was there a lesion diagnosed benign on cytologic evaluation that proved malignant on surgical extirpation.

Discussion

The evaluation of thyroid nodules is one of the most difficult and perplexing problems in clinical medicine. The problem is compounded by the high incidence (4%-7%) of nodular thyroid glands and the knowledge that few such nodules contain carcinoma. The high cure rate of appropriately managed thyroid carcinoma makes the identification of such lesions essential.[1]

In addressing this dilemma physicians have traditionally relied upon the identification of risk factors in the patient's history, palpatory findings and laboratory (scan, sonogram) assessment. A family history of medullary carcinoma of the thyroid or a personal history of neck or facial irradiation are factors known to be associated with an increased risk of thyroid carcinoma in a thyroid nodule. In addition, firm nodules, nodules that are fixed to underlying tissue, or nodules associated with cervical lymphadenopathy are highly suggestive of carcinoma. The finding that a given nodule concentrates iodide less effectively than surrounding tissue has traditionally been associated with an increased risk of thyroid carcinoma in such nodules. The finding that cold nodules are solid or mixed solid-cystic on sonography further increases the likelihood of a malignant lesion.

Even the careful application of such techniques, however, results in a disturbingly high rate of surgery with few findings of carcinoma.[4] The recent application of fine needle aspiration to the diagnostic algorithm has been reported to reduce the surgical rate by 40% while increasing the rate of discovery of thyroid carcinoma twofold. The widespread application of fine needle aspiration would lead to an estimated monetary savings of approximately $15 million annually.[8]

The reported efficacy of the technique of fine needle aspiration, as well as the absence of significant risk associated with the procedure, led us to evaluate the applicability of that technique in our own patient population. The surgical followup in 43 of the first 100 patients whom we evaluated provides information that closely corresponds to the experience reported in the literature in larger series. All 29 lesions that preoperatively we felt were benign were demonstrated to be so on surgical extirpation. Two of the remaining 14 lesions were believed, on aspiration, to be malignant. This diagnosis was confirmed by surgery.

Twelve lesions were preoperatively suspected to be malignant and thus warranted surgical removal. Two of those lesions were subsequently proven to be malignant, while 10 were benign. As previously mentioned, these findings closely parallel those reported in the literature in more extensive series.

The reliability of fine needle aspiration has led several investigators to suggest that this technique may be the appropriate first step in the evaluation of thyroid nodules.[4, 6, 8] These investigators have suggested that lesions demonstrated by fine needle aspiration to be malignant should be surgically excised, while those lesions deemed to be benign should be suppressed with exogenous thyroxine. They would reserve isotope scanning for those lesions in which the cytologic findings are consistent with the diagnosis of a follicular adenoma. On isotope scanning, the finding of increased function in such a lesion would virtually eliminate the possibility of a thyroid carcinoma, while the demonstration of a hypofunctioning lesion would warrant surgical extirpation. The widespread application of such an approach would obviously further decrease the expense associated with the evaluation of a thyroid nodule.

It should be made clear that there are specific limitations in the use of fine needle aspiration as a diagnostic technique. First, identification of benign follicular adenoma on aspiration does not rule out the possibility of an angio-invasive follicular carcinoma, a lesion that is clinically malignant. Secondly, the clinical course following aspiration is important. Suppressive therapy continues to play an important role, and the growth of a lesion despite exogenous thyroxine therapy may necessitate a second aspiration or surgical intervention. Thirdly, experienced palpation and effective aspiration technique are necessary for procurement of an adequate and satisfactory sample. Of paramount importance is the availability of a pathologist trained and experienced in the evaluation of thyroid cytological specimens.

Our experience to date suggests that because of efficiency and accuracy, fine needle aspiration in the future will be a tool of increasing importance in the evaluation of nodular thyroid glands.

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Medical School News

St. Louis University

■ **Matt H. Backer Jr., M.D.,** has been appointed professor and chairman of the department of obstetrics and gynecology. A 1950 graduate of St. Louis University School of Medicine, Dr. Backer has been an active member of the clinical faculty since 1954 and a clinical professor since 1971. He also has served as past president of St. Louis University Hospitals' medical staff.

Dr. Backer has held leadership positions in several professional and civic organizations. He is past president of the St. Louis Gynecological Society and former member of the board of directors for the American Cancer Society. He has recently completed a distinguished career in the U.S. Naval Reserve, retiring in 1984 with the rank of Rear Admiral.

■ **Robert M. Donati, M.D.,** senior associate dean and director of the division of nuclear medicine, has been elected chairman of the American Board of Nuclear Medicine.

The American Board of Nuclear Medicine was established in 1971 and is a conjoint board of the American Boards of Internal Medicine, Pathology and Radiology sponsored by the Society of Nuclear Medicine. To date, the Board has participated in the accreditation of 89 residency training programs and has certified more than 3,300 specialists in nuclear medicine.

■ **Marilyn F. M. Johnston, M.D.,** assistant professor of pathology and medical director of the American Red Cross Bi-State Chapter's Blood Services, has been awarded a $262,000 grant by the National Heart, Lung, and Blood Institute to study education in transfusion medicine.

Dr. Johnston will analyze and improve curriculum to ensure the subject is more thoroughly addressed in medical school, residency, and practice. She will then evaluate the viability of providing continuing education for the community of physicians, and programs for schools of nursing and allied health professions at the medical center. Her findings will assist practicing physicians, blood banks, and the quality of education in the school of medicine.

■ **Thomas Aceto Jr., M.D.,** has been selected to serve on the State of Missouri's Crippled Children's Service Advisory Committee. In addition, he has accepted an invitation from Children's Hospital of Pittsburgh to be the annual Frederick M. Kenny visiting lecturer for 1985.

Dr. Aceto is professor and chairman of the department of pediatrics and adolescent medicine, as well as the medical director of Cardinal Glennon Children's Hospital.

As the Frederick M. Kenny lecturer, he presented three lectures during February: a clinical talk to the Pittsburgh Pediatric Society; a clinical talk given at the pediatric grand rounds; and a research presentation delivered at the combined adult and pediatric conference.

University of Missouri-Kansas City

■ On April 28, a dual dedication of the Armistead B. Carter Courtyard at the UMKC School of Medicine and the Carl Migliazzo Memorial Fountain at Truman Medical Center will be held. The recently completed courtyard, which flanks the entrance to the School of Medicine, was funded by the Armistead B. Carter Fund, through a gift to provost emeritus **E. Grey Dimond, M.D.** The new granite fountain at TMC is located directly in front of the medical center's main lobby entrance and was funded by the family and friends of **Carl Migliazzo,** former president of the Truman Medical Center Corporation. **Russell G. Jones Jr.,** associate executive director of TMC, is coordinating the event.

■ **Robert J. Glaser, M.D.,** will deliver UMKC School of Medicine's annual Carl Migliazzo Memorial Lecture on May 31 as part of the School's commencement activities. Dr. Glaser, who currently is director of Medical Science at the Lucille P. Markey Charitable Trust, is a former dean of Stanford Medical School and former head of the Kaiser Family Foundation.

■ On June 1, UMKC School of Medicine is sponsoring a seminar on medical education which will feature discussions on the School's success with the six-year combined BA/MD program, as well as discussions on cost-effective models of medical education models of the future.

Guests include the original consultants to the then-Chancellor James Olsen in the formation of the medical school. They are: **Norman Cousins,** former editor of the *Saturday Review,* now at UCLA School of Medicine; **Merlin DuVal, M.D., Alfred Fishman, M.D., Boisfeuillet Jones,** of the Trebor Foundation Inc.; **Frederick Robbins, M.D.,** of the National Academy of Sciences; **Homer Wadsworth,** former chairman of the Cleveland Foundation; and **Kerr L. White, M.D.,** most recently with the Rockefeller Foundation. Other people expected to attend who played key roles in the formation of the School and of TMC include **Nathan Stark** and **Vernon Wilson, M.D.**

■ Provost emeritus **E. Grey Dimond, M.D.,** has been named chairman of the newly formed American Advisory Committee for the Institute of Cardiology and Fu Wai National Heart Hospital in Beijing, People's Republic of China. **Fong Tsai, M.D.,** professor of Medicine and chairman of Radiology at Truman Medical Center, and clinical professor **James E. Crockett, M.D.,** of the Mid-America Heart Institute, are also on the committee.

■ **Joseph Boyle, M.D.,** president of the American Medical Association, made UMKC School of Medicine one of several speaking engagements when he was in Kansas City Feb. 21. Dr. Boyle also spoke to members of the Jackson County Medical Society, and at a meeting of the Downtown Rotary Club.

■ **Debabrata Maulik, M.D.,** joined Truman Medical Center's OB/GYN staff this month. Dr. Maulik, a perinatologist, most recently was at the University of Rochester Medical Center in Rochester, N.Y., and was a consultant perinatologist, assistant professor, and associate attending physician at Strong Memorial Hospital in Rochester, N.Y. Prior to that, he held positions at hospitals in London and Calcutta, India.

- The second Edgar Snow Symposium is scheduled for April 29-30. **Edgar Snow** was a reknowned journalist in China, and the main thrust of the event will be gathering journalists and others knowledgeable about modern China and analyzing journalistic coverage about the nation as well as the accessibility of information on China.

Speakers will include **Harrison Salisbury** of *The New York Times*, **Linda Mathews** of *The Los Angeles Times*, and **Michel Oksenberg**, professor of Political Science with the East Asian Studies at the University of Michigan. Among the Chinese guests will be former Foreign Minister of China, **His Excellency Huang Hua**, and his wife, Madame He Liliang.

Washington University

- Two scientists at Washington University School of Medicine in St. Louis are among 1985 recipients of $100,000 neuroscience development awards from the McKnight Foundation.

Jeff Lichtman, M.D., Ph.D., assistant professor of physiology and biophysics, and **Mark Willard, Ph.D.**, associate professor of anatomy and neurobiology, were among 14 scientists selected for the awards. The awards provide research funding for three years.

The McKnight Foundation presents the awards to advance neuroscience research and to encourage experienced investigators to study the basic mechanisms of memory and of diseases that affect memory.

- Storz Instrument Company has donated medical equipment and supplies valued at $530,000 to the Departments of Ophthalmology and Otolaryngology at Washington University School of Medicine.

The ophthalmology department will use the supplies and equipment in its training and research programs, while the otolaryngology department plans to use its gift in patient care areas and in research laboratories.

The relationship between Storz Instrument Co. and the School of Medicine began in the early 1950s when the company was located on Audubon Avenue, near the Washington University Medical Center. At that time **Bernard Becker, M.D.**, chairman of the Department of Ophthalmology, worked with the late **Charles R. Storz Sr.**, then head of Storz Instrument Co., to redesign medical instruments needed for Becker's research projects.

Last year, the Storz Fellowships in Ophthalmology were established through an $880,000 endowment to the School of Medicine and Barnes Hosital, a sponsoring institution of the Washington University Medical Center. The fellowships, created by the late Charles R. Storz Jr., provide funding for students who seek advanced training in ophthalmology.

The University of Missouri-Columbia

- **Mark McIntosh, Ph.D.**, assistant professor of microbiology, has received a three-year grant of $206,613 from the National Science Foundation for a study of "Iron-Mediated Regulation of Gene Expression."

He will initiate detailed molecular analyses of the mechanisms involved in iron-mediated regulation of gene expression in Escherichia coli, using the genes responsible for the biosynthesis (ENT) and transport (FEP, FES) of the native siderophore enterobactin (or enterochelin) as a model system.

- **David Roeltgen, M.D.**, assistant professor of neurology, has received a five-year Teacher Investigator Award of $270,000 from the National Institute of Neuro- and Communicative Disorders and Stroke for a study of "A Neuropsychological Model of Development Agraphia."

Funding will provide a research and training program in the area of learning disabilities. The research program is designed to test an information processing model of children's writing. This model is derived from a model of adult writing developed from studying patients with acquired agraphia.

- **Myron Toews, Ph.D.**, assistant professor of pharmacology, has received a two-year grant of $50,000 from the Pharmaceutical Manufacturers Association Foundation for a study on "Mechanisms of Regulation of Adrenergic Receptors."

- **Carl J. Marienfeld, M.D.**, professor emeritus of family and community medicine at the University of Missouri-Columbia (UMC) School of Medicine, was posthumously honored by an award from the Cancer Research Center for his outstanding research contributions in the field of cancer epidemiology.

- **Walter Levy, M.D.**, assistant professor of surgery, has received a one year grant of $31,640 from the Paralyzed Veterans of America Spinal Cord Research Foundation for a study of "Prediction of Spared Motor Pathways and Recovery from Injury Using the Motor Evoked Potential in a Spinal Cord Impact Model."

- **Lynette Feeney-Burns, Ph.D.**, professor of ophthalmology, has received a Shared Instrumentation Grant of $282,350 from the National Institutes of Health to purchase a modern analytical electron microscope.

The microscope, in addition to allowing morphological observations of specimens via both transmission and scanning electrons, is fitted with an energy dispersive x-ray spectrometer and an electron energy analyzer to allow elemental analysis of specimen microareas as small as a few nanometers in diameter.

- Members of the Student National Medical Association (SNMA), along with the International Student Association, at the University of Missouri-Columbia, closed the first semester of the 1984-85 academic year with a fundraising campaign for the African Relief Fund. The five-day effort raised more than $3,200.00. The International Red Cross delivered the funds to the African organization, thereby assuring delivery of 100% of the donations to the area. The funds are to be used for the purchase and delivery of food and medical supplies to Ethiopian starvation victims. The money was collected from students across the campus, medical students, and School of Medicine faculty members. The project leaders were **Ozuru Ukoha, Dennis Eneanya, Denise Johnson,** and **Zakee Matthews**. Many other students volunteered time for the project.

Other activities of the SNMA at UMC include hosting the Regional SNMA meeting in Columbia on February 9 and 10. The SNMA also is hoping to develop a teenage sexuality education program for presentation to high school students in April.

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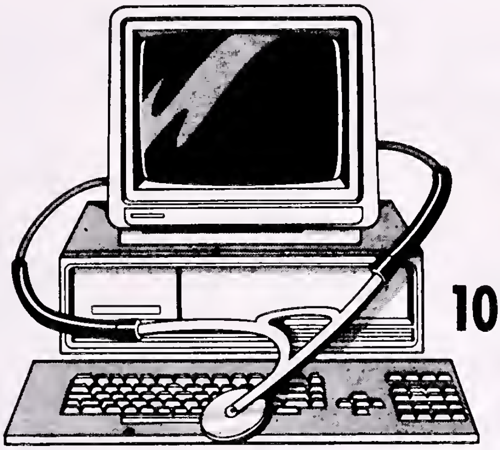

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8:30	Opening Remarks, Ronald G. Vincent, M.D., Director, Ellis Fischel State Cancer Center
9:00	"Clinical Evaluation of Breast Abnormalities" — Edith P. Mitchell, M.D., Ellis Fischel State Cancer Center
9:40	"Issues in the Surgical Management of Breast Cancer" — William G. Kraybill, M.D., Ellis Fischel State Cancer Center
10:30	"Principles of Chemotherapy in Breast Cancer" — John Yarbro, M.D., Ph.D., Director, Hematology/Medical Oncology Department of Medicine, University of Missouri-Columbia
11:00	"Toxicities of Chemotherapy" — Michael C. Perry, M.D., Chairman, Department of Medicine, University of Missouri-Columbia
11:30	"Adjuvant Therapy of Breast Cancer" — Ralph D. Reynolds, M.D., Ellis Fischel State Cancer Center
12:00 NOON	Lunch
1:00 PM	"Hormones and Tumor Markers in Breast Cancer" — Ali Khojasteh, M.D., Ellis Fischel State Cancer Center
1:40	"Chemotherapy of Breast Cancer" — Reginald P. Pugh, M.D., Professor, Division of Medical Oncology, Allegheny General Hospital, Pittsburgh, PA
2:30	Panel Discussion
3:30	Adjourn

Saturday, May 11, 1985

8:15 AM	Registration
8:30	Opening Remarks, Ronald G. Vincent, M.D., Director, Ellis Fischel State Cancer Center
8:45	"Biotherapy: The Fourth Modality of Cancer Treatment" — Robert K. Oldham, M.D., Institute for Biological Therapy, Franklin, TN (Financial support provided by Cancer Research Center)
9:25	"Combined Modality therapy of Head and Neck Cancer" — Bernard R. Greenberg, M.D., Department of Medicine, Veterans Administration Hospital, Tucson, AZ
10:05	"Management of Acute Non-Lymphocytic Leukemia" — Thomas Froelich, M.D., Oncology Hematology Associates, Springfield, MO
11:00	"The Role of Radionuclide Scanning in Cancer Management" — Angel Garcia, M.D., Ellis Fischel State Cancer Center
11:40	"Cancers Curable by Chemotherapy" — Nancy Abdou, M.D., Research Medical Office, Kansas City, MO

Registration fees:

Physician/Dentist	$50.00
RN/Other Professional	$20.00
Student	$5.00

The symposium will be held at the Ellis Fischel State Cancer Center. For information and registration please contact:

Janice Gentile, Program Development
Ellis Fischel State Cancer Center
115 Business Loop 70 West
Columbia, MO 65203
(314) 875-2100, ext. 398

Continuing Medical Education

The continuing medical education accreditation program of the MSMA has full approval by the AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. Please remember to include the name of the individual who can be contacted at your institution for additional information about your CME events.

April

11-12 Care of the Aging Patient — Washington University. Contact: Loretta Giacoletto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

12-13 **American Society for Microbiology, Missouri Branch.** Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

12-13 **Communicating with Children (Hearing and Speech)** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

18 **Death and Dying** — Joplin. Contact: Linda Peters, Freeman Hospital Education Dept., 1102 W. 32nd St., Joplin 64801. 417-623-2801, ext. 330.

19-20 **The Long Weekend** — Kansas City Alameda Plaza Hotel. Contact: Alta Bingham, CME, UMKC School of Medicine, Kansas City Southwest Clinical Society, 2220 Holmes St., Kansas City 64108. 816-276-1339.

19-21 **35th Annual Symposium on Anesthesiology** — Westin Crown Center Hotel. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480

20 **Comprehensive Care for Cleft Lip and Palate** — Washington University. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis 63110. 314-362-6893

24 **Regional Conference on Psychiatric/Mental Health:** Trends and Issues in the Management of Care — St. Louis Chase Hotel. Contact: Anita Herbst, CME, St. Louis University, 314-664-9800, extension 167.

24-25 **11th Annual Family Practice Symposium** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

25-26 **12th Annual Postgraduate Course in OB/GYN** — Washington University. Contact: Loretta Giacoletto, CME, Washington University, Box 8063, 660 S. Euclid Ave., St. Louis, 63110. 314-454-3853.

26 **29th Annual Symposium on Infectious Disease** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103.

26-27 **Fourth Annual Clinical Conference on Arthritis.** Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

26-27 **Infection Control** — St. Louis. Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

27 **Ophthalmology Conference.** Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

27 **Annual Pathology Symposium** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

30 **Samuel E. Roberts Nutrition Program: Minerals in Human Nutrition:** *Clinical Application* — University of Kansas Medical Center. Contact: Ida Tilden, Academy of Health Professions, 2920 McGee Trafficway, Kansas City 64108. 816-531-4559.

May

1 **What's New in Diabetes Treatment?** University of Kansas. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

2 **Diabetes for Physicians** — University of Kansas. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

9-10 **Technological Advances in Respiratory Care** — University of Kansas. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

10-11 **Breast Cancer: Diagnosis and Treatment** — Washington University. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314-362-6893.

10-11 **Cancer Update '85 Spring Symposium: Breast Cancer Update** — Ellis Fischel State Cancer Center. Contact: Janice Gentile, Ellis Fischel State Cancer Center, 115 Business Loop 70 West, Columbia 65201. 314-875-2100.

10-12 **Eighth Annual Missouri Cardiovascular Conference** — Tan-Tar-A, Osage Beach. Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

13-14 **PNP Update** — Washington University School of Medicine. Contact: Loretta Giacoletto, CME Washington University School of Medicine, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

17 **Kansas Medicine: Ten Years Later** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

18 **Clinical Aspects & Therapeutic Principles of Alzheimer's & Parkinson's Diseases** — Washington University. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314-362-6893.

21-22 **Advanced Cardiac Life Support** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

23-24 **The Child with Chronic Disease** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

30-31 **Advanced Trauma Life Support** — University of Kansas Medical Center. Contact: Jody Scott, Department of Surgery, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-6124.

June

13 **Quarterly Tumor Board Meeting** — Ellis Fischel State Cancer Center. Contact: Janice Gentile, Ellis Fischel State Cancer Center, 115 Business Loop 70 West, Columbia, MO 65203. 314-875-2100, extension 398.

13-14 **A Special Workshop on the Use of CO_2 Laser in ENT Surgery** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

20-21 **Topic Reviews in General Pediatrics** — Tan-Tar-A Resort, Lake of the Ozarks. Contact: Jen-Yih Chu, M.D., Cardinal Glennon Children's Hospital, St. Louis University School of Medicine, 1465 South Grand Blvd., St. Louis, MO 63104. 314-577-5638.

July

22-31 **Clinical Allergy** — Germany. Contact: Loretta Giacoletto, Washington University School of Medicine, CME, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

Physician's Recognition Awards

Forty-six MSMA members qualified for the MSMA-AMA Physician's Recognition Award during January 1985.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Boone

Donald J. Joseph, *Columbia*
Luke W. Lucas, *Columbia*

Butler-Wayne-Ripley-Carter

T. Eugene Ruff, *Poplar Bluff*
Kirby L. Turner, *Poplar Bluff*

Cape Girardeau

Joseph N. Tygett, *Cape Girardeau*

Greene

Sally L. Hubbard, *Springfield*
Douglas A. Huewe, *Springfield*
Norman R. Wall, *Springfield*

Jackson

Kenneth A. Buchwach, *Kansas City*
George S. Devins, *Kansas City*
Daniel M. Downs, *Kansas City*
Alan J. Ferber, *Kansas City*
Morris L. Friedman, *Kansas City*
Robert L. Givler, *Kansas City*
James J. Harbrecht, *Kansas City*
Raymond W. Hartwig, *Kansas City*
Warren J. Hunzicker, *Kansas City*
Roberto Lopez-Plata, *Kansas City*
Bernard J. Melia, *Kansas City*
George K. Parkins, *Kansas City*
Pat K. Price, *Blue Springs*
Ernest D. Szabados, *Independence*
Barnard C. Trowbridge, *Kansas City*
Darryl L. Wallace, *Kansas City*
Charles B. Wheeler, *Kansas City*
Morris F. Wise, *Kansas City*

Johnson

David W. Glover, *Warrensburg*

Northeast

Bryson R. McHardy, *Hannibal*

Northwest

Kanti L. Havaldar, *Maryville*

Perry-Ste. Genevieve

Lawrence W. Feltz, *Perryville*

St. Louis

Behrooz A. Akbarnia, *St. Louis*
Arthur I. Auer, *St. Louis*
H. Bradley Binnington, *St. Louis*
Hillard K. Cohen, *St. Ann*
Kenneth D. Corwin, *St. Louis*
Doris C. Weiser Gilpin, *St. Louis*
Falls B. Hershey, *St. Louis*
Bruce J. Hookerman, *Bridgeton*
Duk Sung Lee, *Town and Country*
Bernard S. Loitman, *St. Louis*
Lawrence W. O'Neal, *St. Louis*
Marvin Rennard, *St. Louis*
Kenneth S. Rotskoff, *St. Louis*
Horace W. Scott, *St. Louis*
Kaup C. Shetty, *Florissant*
Walter R. Stafford, *Clayton*

Before prescribing, see complete prescribing information in SK&F CO. literature or *PDR*. The following is a brief summary.

* **WARNING**

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: **Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired.** If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of Dyrenium (triamterene, SK&F CO.) and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.
BRS-DZ:L39

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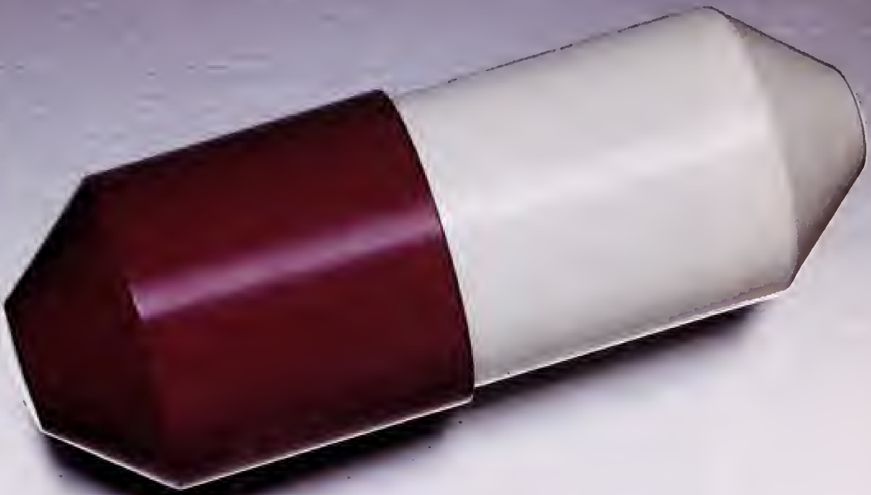

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Please see brief summary on following page.

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Contraindications: Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no pacemaker is present), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction <30%) or moderate to severe symptoms of cardiac failure. Control milder heart failure with optimum digitalization and/or diuretics before ISOPTIN is used. ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild, and controlled by decrease in ISOPTIN dose). Occasional elevations of liver enzymes have been reported; patients receiving ISOPTIN should have liver enzymes monitored periodically. Patients with atrial flutter/fibrillation and an accessory AV pathway (e.g., W-P-W or L-G-L syndromes) may develop a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion. AV block may occur (3rd degree, 0.8%). Development of marked 1st-degree block or progression to 2nd- or 3rd-degree block requires reduction in dosage or, rarely, discontinuation and institution of appropriate therapy. Sinus bradycardia, 2nd-degree AV block, sinus arrest, pulmonary edema, and/or severe hypotension were seen in some critically ill patients with hypertrophic cardiomyopathy who were treated with ISOPTIN. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of overdosage. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, patients should be monitored closely. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function or in patients who have also recently received methyldopa. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patient carefully monitored. ISOPTIN may have an additive hypotensive effect in patients receiving blood-pressure-lowering agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C:* There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor, and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block, 3rd degree (0.8%), bradycardia: HR<50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%). The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: confusion, paresthesia, insomnia, somnolence, equilibrium disorders, blurred vision, syncope, muscle cramps, shakiness, claudication, hair loss, maculae, and spotty menstruation. Overall continuation rate of 94.5% in 1,166 patients. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in 80 mg and 120 mg sugar-coated tablets. July 1982 2068

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New Members

- **A. Paul Barker, M.D.,** 219 E. 46th St., Apt. 1, Kansas City 64112, has become a member of the Jackson County Medical Society. Dr. Barker received his preliminary education at Michigan State University and his medical degree at George Washington University in 1984. He is currently completing his residency training at the University of Missouri-Kansas City Affiliated Hospitals, Kansas City. He specializes in emergency medicine.

- **James S. Barthel, M.D.,** D-219 Veterans Administration Hospital, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Barthel received his preliminary education at the University of Missouri-Columbia and his medical degree at Baylor College in 1974. He completed his residency training at Fitzsimons Army Medical Center, Denver, Co. He specializes in internal medicine and gastroenterology.

- **Jagadishwar Devkota, M.D.,** M201 One Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Devkota received his preliminary education at Tribhuban University and his medical degree at Cairo University in 1969. He completed his residency training at St. Vincent's Medical Center in New York, N.Y. He specializes in diagnostic radiology and neuroradiology.

- **David K. Dueker, M.D.,** One Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Dueker received his preliminary education at Pomona College and his medical degree at Yale University in 1970. He completed his residency training at Yale-New Haven Hospital, New Haven, Conn. He specializes in ophthalmology.

- **Thomas E. Edes, M.D.,** Department of Medicine, One Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Edes received his preliminary education at the University of Illinois and his medical degree at the University of Illinois in 1981. He completed his residency training at the University of Missouri-Columbia. He specializes in internal medicine.

- **Jeffrey O. Emory, M.D.,** 214 E. Armour, No. 206, Kansas City 64111, has become a member of the Jackson County Medical Society. Dr. Emory received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1984. He is completing his residency training at the University of Missouri-Kansas City Affiliated Hospitals, Kansas City. He specializes in emergency medicine.

- **E. Dale Everett, M.D.,** One Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Everett received his preliminary education at Northwestern State University and his medical degree at the University of Oklahoma in 1963. He completed his residency training at Fitzsimons Army Medical Center, Denver, Co. He specializes in internal medicine and infectious diseases.

- **William W. Fish, M.D.,** 144 Westwoods Dr., Liberty 64068, has become a member of the Clay-Platte County Medical Society. Dr. Fish received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1981. He completed his residency training at Baptist Medical Center, Kansas City. He specializes in family practice.

- **Alan S. Gamis, M.D.,** 7575 W. 106th St., #308, Overland Park, Ks. 66212, has become a member of the Jackson County Medical Society. Dr. Gamis received his preliminary education at Drake University and his medical degree at the University of Illinois in 1984. He is completing his residency training at the University of Missouri-Kansas City Affiliated Hospitals, Kansas City. He specializes in internal medicine and pediatrics.

- **Joseph Giangiacomo, M.D.,** One Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Giangiacomo received his preliminary education at Mount St. Mary's College, Md., and his medical degree at the University of Cincinnati in 1968. He completed his residency training at the University of Missouri Hospitals and Clinics, Columbia. He specializes in ophthalmology and pediatric ophthalmology.

- **Phillip C. Hoopes, M.D.,** 2900 Baltimore, Kansas City 64108, has become a member of the Jackson County Medical Society. Dr. Hoopes received his preliminary education at the University of Missouri-Kansas City and his medical degree at Bowman Gray in 1976. He completed his residency training at the University of Iowa, Iowa City. He specializes in ophthalmology.

- **Gregory L. Hummel, M.D.,** Suite 501, Blue Ridge Tower, 4240 Blue Ridge Blvd., Kansas City 64133, has become a member of the Jackson County Medical Society. Dr. Hummel received his preliminary education and his medical degree at the University of Missouri-Columbia in 1979. He completed his residency training at the University of Missouri Hospitals & Clinics, Columbia. He specializes in orthopaedic surgery.

- **Donald R. Kay, M.D.,** Medicine, North 403, University of Missouri Health Sciences Center, Columbia 65212, has become a member of the Boone County Medical Society. Dr. Kay received his preliminary education at the University of Michigan and completed his medical education there in 1961. He completed his residency training at the University of Michigan, Ann Arbor. He specializes in internal medicine and rheumatology.

- **Marcia A. Kielhofner, M.D.,** 639 E. 70th Terrace, Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Kielhofner received her baccalaureate and medical degree from the University of Missouri-Kansas City in 1984. She is completing her residency training at the University of Missouri-Kansas City Affiliated Hospitals, Kansas City. She specializes in internal medicine.

- **Yong Kie Kim, M.D.,** 3004 Gordonville Rd., Cape Girardeau 63701, has become a member of the Cape Girardeau County Area Medical Society. Dr. Kim received his preliminary education at Seoul National University and his medical degree there in 1961. He completed his residency at the University of South Carolina, Charleston. He specializes in neurosurgery.

■ **Renu Kumar, M.D.,** Wayne Miner Health Center, 825 Euclid, Kansas City 64124, has become a member of the Jackson County Medical Society. Dr. Kumar received her preliminary education at SPGG Inter College and her medical degree at MLB Medical College in 1979. She completed her residency at Kansas University Medical Center, Kansas City, Kansas. She specializes in pediatrics.

■ **Morton H. Levitt, M.D.,** 2316 E. Meyer Blvd., Kansas City 64132, has become a member of the Jackson County Medical Society. Dr. Levitt received his preliminary education at Duke University and his medical degree there in 1972. He completed his residency training at Duke University Hospital, Durham, N.C. He specializes in pathology.

■ **Terryl L. Mackey, M.D.,** 1908 Cambridge Circle, West Plains 65775, has become a member of the South Central Counties Medical Society. Dr. Mackey received her preliminary education at University of Arkansas and her medical degree there in 1979. She completed her residency training at Akron General Medical Center, Akron, Ohio. She specializes in emergency medicine.

■ **David C. Magaw, M.D.,** Rt. 1, Box 145, Everton 65646, has become a member of the Dallas-Hickory-Polk-Dade Medical Society. Dr. Magaw received his preliminary education at the University of Michigan and his medical degree at Wayne State University in 1968. He completed his internship training at Detroit General Hospital, Detroit, Mich. He specializes in general practice.

■ **Robert D. Marienfeld, M.D.,** Harry S. Truman Veterans Hospital, 800 Stadium, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Marienfeld received his preliminary education at Washington University and his medical degree at the University of Missouri-Columbia in 1971. He completed his residency training at the University of Missouri Hospital and Clinics, Columbia. He specializes in internal medicine.

■ **Antonio R. Paschino, M.D.,** 4400 Broadway, Kansas City 64111, has become a member of the Jackson County Medical Society. Dr. Paschino received his preliminary education at Buenos Aires University and his medical degree there in 1960. He completed his residency training at Kansas University Medical Center, Kansas City, Kan. He specializes in psychiatry.

■ **Annette M. Quick, M.D.,** 214 E. Armour Blvd., Kansas City 64111, has become a member of the Jackson County Medical Society. Dr. Quick received her baccalaureate and medical degree at the University of Missouri-Kansas City in 1984. She is completing her residency training at the University of Missouri-Kansas City affiliated Hospitals, Kansas City, Mo. She specializes in internal medicine.

■ **Moonasar P. Rampertaap, M.D.,** 1943 Lawrence Ct., Kansas City, Kan. 66103, has become a member of the Jackson County Medical Society. Dr. Rampertaap received his preliminary education at Howard University and his medical degree at the American University of the Caribbean in 1982. He is completing his residency training at the University of Missouri-Kansas City Affiliated Hospitals, Kansas City, Mo. He specializes in internal medicine.

■ **Charles E. Rhoades, M.D.,** Suite 610, 4320 Wornall Rd., Kansas City 64111, has become a member of the Jackson County Medical Society. Dr. Rhoades received his preliminary education at the University of Kansas and his medical degree there in 1978. He completed his residency training at the University of California, San Diego, Calif. He specializes in orthopedics.

■ **James R. Rochelle, M.D.,** 2030 Swift, Kansas City 64116, has become a member of the Clay-Platte County Medical Society. Dr. Rochelle received his preliminary education at the University of Wyoming and his medical degree at Creighton University in 1978. He completed his residency training at Hamot Medical Center, Erie, Pa. He specializes in orthopedics and pediatric orthopedics.

■ **Laurie A. Romig, M.D.,** 1508 B Mewes Dr., Kansas City 64131, has become a member of the Jackson County Medical Society. Dr. Romig received her preliminary education at the University of South Florida and her medical degree there in 1984. She is completing her residency training at the University of Missouri-Kansas City Affiliated Hospitals, Kansas City, Mo. She specializes in emergency medicine.

■ **Barry A. Rose, M.D.,** 6724 Troost, Suite 800, Kansas City 64131, has become a member of the Jackson County Medical Society. Dr. Rose received his preliminary education at the University of Kansas and his medical degree there in 1979. He completed his residency training at Kansas University Medical Center, Kansas City, Kan. He specializes in orthopedic surgery.

■ **David I. Shadowen, M.D.,** 7220 W. 83rd St., Shawnee Mission, Ks., 66204, has become a member of the Jackson County Medical Society. Dr. Shadowen received his preliminary education at Western Kentucky University and his medical degree at the University of Louisville in 1984. He is completing his residency training at the University of Missouri-Kansas City Affiliated Hospitals, Kansas City, Mo. He specializes in internal medicine.

■ **Shadrach Smith, M.D.,** 2900 Baltimore Ave., Suite 370, Kansas City 64108, has become a member of the Jackson County Medical Society. Dr. Smith received his preliminary education at Wichita State University and his medical degree at Kansas University in 1978. He completed his residency training at the University of Oklahoma, Tulsa. He specializes in internal medicine.

■ **S. Garrett Sullivan, M.D.,** 6400 Prospect, Suite 142, Kansas City 64132, has become a member of the Jackson County Medical Society. Dr. Sullivan received his preliminary education at Stanford University and his medical degree at the University of Colorado in 1980. He completed his residency training at the University of California, Los Angeles, Calif. He specializes in anesthesiology.

■ **Vernon C. Tegtmeyer, M.D.,** Harwood Clinic, Lebanon 65536, has become a member of the Laclede County Medical Society. Dr. Tegtmeyer received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1980. He completed his residency training at the University of Missouri-Columbia, Mo. He specializes in family practice.

■ **John A. Yuhas, M.D.,** 11420 Burton, Sugar Creek 64054, has become a member of the Jackson County Medical Society. Dr. Yuhas received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1984. He is completing his residency training at the University of Missouri-Kansas City Affiliated Hospitals, Kansas City, Mo. He specializes in internal medicine.

■ **Paul L. Weygandt, M.D.,** 1908 Cambridge Circle, West Plains 65775, has become a member of the South Central Counties Medical Society. Dr. Weygandt received his preliminary education at Bucknell University and his medical degree at the University of Cincinnati in 1979. He completed his residency training at Akron City Hospital, Ohio. He specializes in orthopedic surgery.

In Memoriam

■ **J. Harry Keim, M.D.,** 1845 Woodlawn, Cape Girardeau 63701; graduate of the University of Tennessee, 1927; member of Cape Girardeau Area County Medical Society; age 78; died Jan. 22, 1985.

■ **John B. Ryan, M.D.,** 429 Cedar, Washington 63090; graduate of Rush Medical College, 1940; member of Franklin-Gasconade-Warren County Medical Society; age 73; died Jan. 24, 1985.

■ **Francis Tarvydas, M.D.,** Edina 63537; graduate of Lithuania University Vytoutas the Great Medical School, 1938; member of North Central County Medical Society; age 73; died Jan. 25, 1985.

■ **Richard R. Becker, M.D.,** 5622 Holmes St., Kansas City 64110; graduate of St. Louis University, 1926, member of Jackson County Medical Society; age 84; died Feb. 12, 1985.

■ **Jordan A. Kelling, M.D.,** Kelling Clinic and Hospital, Waverly 64096; graduate of St. Louis University, 1933; member of Lafayette-Ray County Medical Society; age 77; died Feb. 18, 1985.

■ **Stanley D. Fisher, M.D.,** 2200 S. Kentucky, Sedalia 65301; graduate of University of Kansas, 1952; member of Pettis County Medical Society; age 60; died Feb. 21, 1985.

■ **Thomas R. Winston, M.D.,** 6420 Prospect, Suite T211, Kansas City 64132, has become a member of the Jackson County Medical Society. Dr. Winston received his preliminary education at the University of Pennsylvania and his medical degree at Tulane University in 1975. He completed his residency training at Louisiana State University Medical Center, Shreveport. He specializes in cardio-thoracic surgery.

■ **Charlotte D. Scanlon, M.D.,** 131 E. 46th St., Kansas City 64112, has become a member of the Jackson County Medical Society. Dr. Scanlon received her baccalaureate and medical degree at the University of Missouri-Kansas City in 1984. She is completing her residency training at the University of Missouri-Kansas City Affiliated Hospitals, Kansas City, Mo. She specializes in internal medicine.

■ **Robert L. Sealby, M.D.,** 904 Edmond St., St. Joseph 64501, has become a member of the Buchanan County Medical Society. Dr. Sealby received his preliminary education at the University of Michigan and his medical degree at the University of Michigan in 1963. He completed his internship at the University of Iowa. He specializes in family practice.

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Manuscripts should be typewritten, double spaced, and the original with one copy submitted. Retain another copy for proofreading. Please number the pages of your manuscript. Manuscripts are not returned. Hospital and University appointments of the author(s) should accompany the manuscript. A synopsis-abstract of no more than 75 words should accompany the manuscript.

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Letters will be published at the discretion of the editor, managing editor, and Editorial Board.

Deadline

All material other than scientific should be received prior to the first of the month preceding month of publication.

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You are invited — to attend the MSMA Auxiliary Seventh Annual Benefit for the MSMF and AMA-ERF. Thursday, April 11 at 6 p.m. at the Kansas City Hyatt Regency Hotel. In conjunction with the MSMA and MSMAA Annual Conventions.

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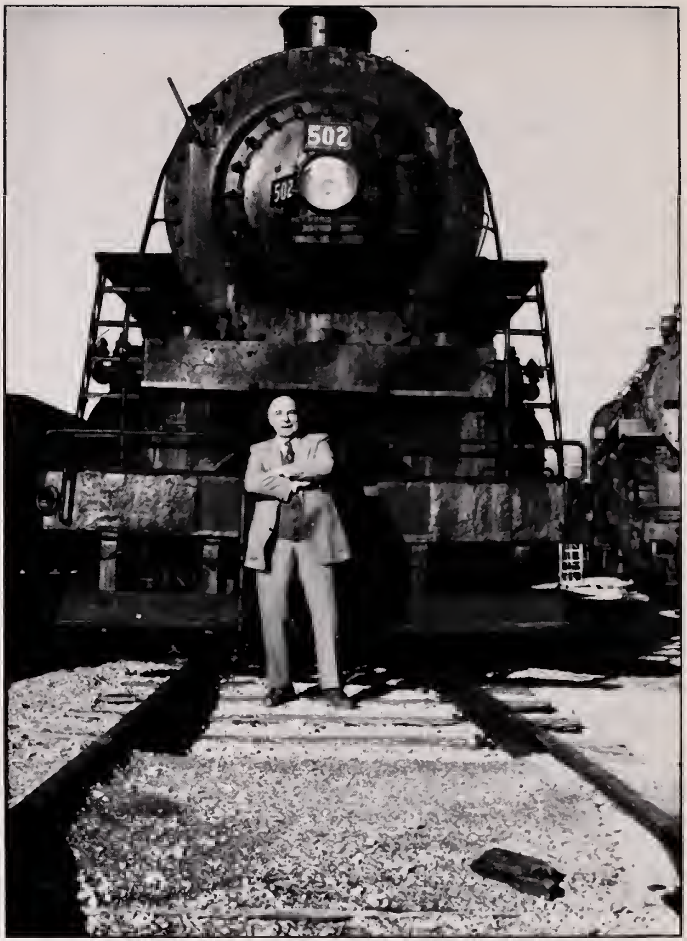

John Payne Roberts, M.D.

Two roads diverged in a yellow wood,
and sorry I could not travel both
Robert Frost

For more than 40 years, John Payne Roberts has followed an unusual, uncharted course. The road he has taken has led to both the practice of medicine and to the establishment of a museum of national significance.

As a student at the Washington University School of Medicine, John Roberts found himself coping with not only books and exams, but also with trying to find a home for a vintage mule-drawn streetcar, the "Bellfontaine," destined for scrapping after having been stored for more than 50 years by the St. Louis transit system. During that year of 1944, John Roberts became one of the six "founding fathers" of the National Museum of Transport. The museum's first major acquisition was the "Bellfontaine," rescued from destruction by Dr. Roberts.

Four decades later, Dr. Roberts still practices medicine, is editor of *St. Louis Metropolitan Medicine*, serves on several committees of organized medicine, and is secretary of the Transport Museum Association.

"Neither my medical practice nor the museum is a hobby," Dr. Roberts asserts. "I schedule each to allow for the other."

The museum is time-consuming. Although St. Louis County now administers the institution, Dr. Roberts stays busy rounding up economic and political support for a $10-million, five-year development program that will expand the grounds acreage, build housing and provide all the amenities expected of a "world-class" museum. The museum now boasts more than 300 major exhibits of transportation including trains, buses, streetcars, automobiles, trucks, airplanes, and even a section of a 1st-century A.D. Roman aqueduct. More than 150,000 visitors come to the museum each year.

"I suppose that in terms of tonnage, I am one of the all-time great pack rats," Dr. Roberts suggests. "Getting exhibits is easy. The problem is obtaining the facilities to conserve and display the treasures of our industrial heritage," he adds.

"Ninety-nine percent of my value to the Transport Museum has been simple persistence," Dr. Roberts says. "Forty years ago, my medical colleagues questioned the wisdom of devoting so much of myself to such an 'outlandish undertaking.' Now, many of those doubters are most complimentary in crediting me with leaving a legacy of an important cultural and educational institution for future generations. The satisfaction of such is my reward!"

Two roads: the well-trodden; the less-traveled by. John Roberts took the latter. And that has made all the difference. . . . ■

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References: **1.** Kales J *et al*: *Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. **2.** Kales A *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A *et al*: *Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A *et al*: *Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **6.** Kales A, Kales JD: *J Clin Pharmacol 3*:140-150, Apr 1983. **7.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977. **8.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **9.** Amrein R *et al*: *Drugs Exp Clin Res 9*(1):85-99, 1983. **10.** Monti JM: *Methods Find Exp Clin Pharmacol 3*:303-326, May 1981. **11.** Greenblatt DJ *et al*: *Sleep 5*(Suppl 1):S18-S27, 1982. **12.** Kales A *et al*: *Pharmacology 26*:121-137, 1983.

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Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

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Missouri Medicine

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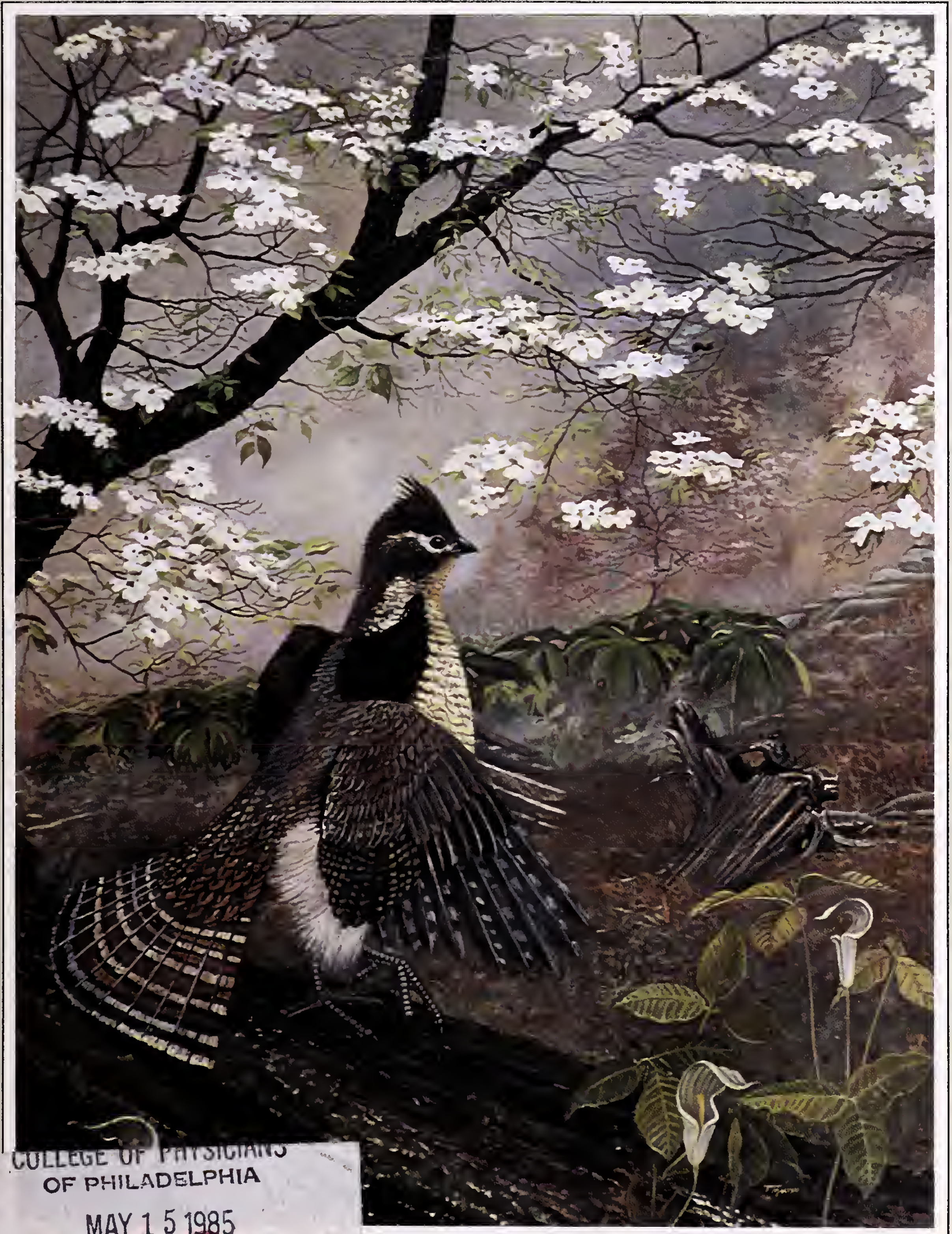

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Missouri Medicine

Vol. 82, No. 5 *Journal of the Missouri State Medical Association* May 1985

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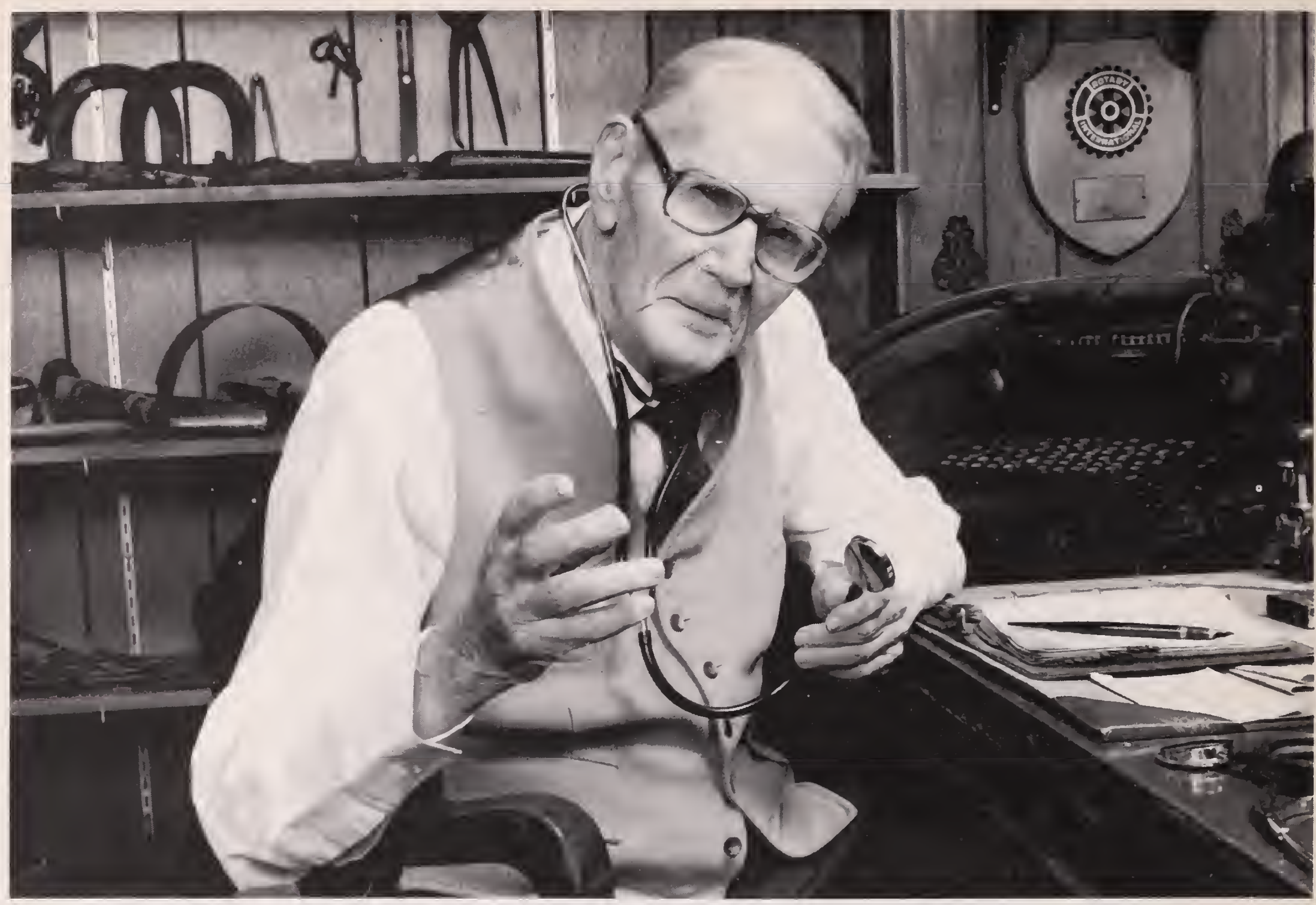

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The Ovid Bell Press, Inc.
Fulton 65251

Missouri Medicine (ISSN 0026-6620) is published monthly by the Missouri State Medical Association, P.O. Box 102B, 113 Madison St., Jefferson City, MO 65102.

Subscription rates: $15 per year. Interns and Residents, $7.50 per year.

Second class postage paid at Jefferson City, Missouri and at additional mailing offices.

Postmaster: Send address changes to Missouri State Medical Association, c/o Membership Department, P.O. Box 102B, Jefferson City, MO 65102.

The articles published in *Missouri Medicine* represent the opinions of the authors, and do not necessarily reflect the official policy of the Missouri State Medical Association.

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Cover

"Ruffed Grouse" *This month's cover depicts a ruffed grouse amid jack-in-the-pulpits, May apples and redbud trees. Due to the efforts of the Missouri Conservation Commission, the ruffed grouse is returning to Missouri. The cover is reproduced from a watercolor by Missouri artist* **Terry L. Martin** *of Columbia. The painting is in the private collection of Robert Deming, Columbia.*

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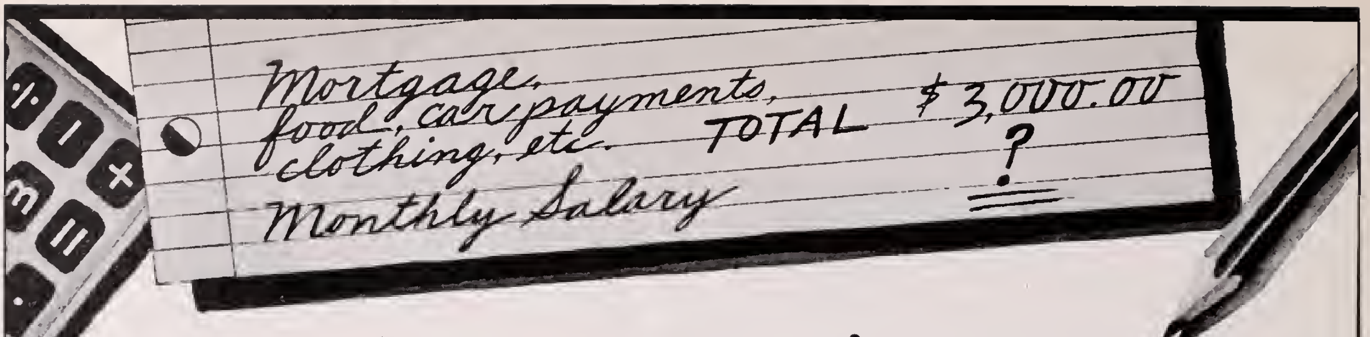

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MSMA House establishes new sections, moves toward unified membership

The creation of two new membership subdivisions in the MSMA, a policy statement on AIDS and HTLV-III antibody testing, and required membership in the AMA were among the major issues discussed and adopted by the 1985 MSMA House of Delegates, which convened April 11-14 in Kansas City.

New membership divisions

In accordance with the 1984 House of Delegate's Resolution 3, a set of new bylaws was adopted, creating a new MSMA Hospital Medical Staff Section. The section will be composed of MSMA members who are also members of hospital medical staffs.

A five-person governing council will direct the programs and activities of the new section, subject to MSMA Council approval. The section will be entitled to one delegate and one alternate to the MSMA House, and all Missouri hospitals will be able to send a representative to meetings of the governing council. The bylaws require that the representative be a member of MSMA.

Also approved by the 1985 House was a resolution calling for the establishment of a Resident Physician organization within the MSMA. A great deal of discussion centered around the proper structuring of the subdivision. Residents could either be organized in a new component resident physician society, or as a resident section through existing component medical societies.

The required bylaw changes were referred to the MSMA Council for additional rewriting, and the required constitutional changes were passed by a simple majority to lie on the table for the mandated year. At the 1986 convention, the issue will be placed before the House once again, where it must win a two-thirds vote for final approval and implementation. A decision on the structuring of the organization will be made at that time. Currently, of 1,800 Missouri residents, only 189 belong to the MSMA.

HTLV-III testing

National attention has focused on testing for HTLV-III antibody as a method to keep potentially infectious individuals from donating blood and spreading AIDS through the national blood supply.

The MSMA House considered a resolution dealing with an information sheet prepared by the U.S. Department of Health and Human Services for distribution to blood donors who have a positive test for the antibody.

In its final amended form, the resolution adopted by the House asks HHS to halt its plans to distribute the sheet pending the filing of objections to language in the document. The resolution also urges HHS "to permit blood collection centers to perform HTLV-III antibody testing for their own use, but to relieve them of any responsibility for supplying test results to test subjects until appropriate scientific knowledge is available."

The MSMA Council was directed to submit an "appropriate response" to HHS and the AMA House of Delegates.

Unified membership

In part because the AMA has developed a number of benefits for states whose every medical society member is also an AMA member, the MSMA Council introduced a resolution requiring all MSMA members to become members of the AMA.

The required constitutional change was adopted after lengthy discussion. As is necessary, the change will lie on the table for a full year before being decided at the 1986 convention. During the year, the component medical societies in the state will discuss the issue.

Other adopted resolutions:

- ☐ *Hospital medical staffs* — creates a team of 20-25 physicians to assist hospital medical staffs in negotiating with their respective institutions, and recommends AMA monograph on hospital medical staffs as a guide for writing staff bylaws.
- ☐ *Sunsetting* — makes all official actions void after five years unless formally renewed. Also sets up initial review of all prior actions for possible retirement, with yearly review thereafter.
- ☐ *Insurance provisions* — mental health coverage, pre-existing illnesses, physician fees. Asks for insurance coverage for mental health equal to that for other health conditions; seeks waiver of new waiting period for pre-existing conditions when an employer changes insurance companies; asks for a halt to "abusive and inappropriate language" regarding physician fees in insurance company communications with patients.
- ☐ *Physician education on foundation review program* — asks that data from the Missouri Patient Care Review Foundation with respect to denials and outcomes be disseminated to ensure denials are not having a negative impact on patient care. ■

Walter A. German takes helm at MSMA

Walter A. German, M.D., a Springfield obstetrician-gynecologist, was installed as the new MSMA president at the MSMA Annual Convention held April 11-14 in Kansas City.

H. Peter Ekern, M.D., Mexico, was unanimously elected president-elect. Berry Ivy, M.D., Springfield, and Jay Meyer, M.D., St. Louis, were re-elected secretary and treasurer, respectively. Newly-elected vice presidents are David Hall, M.D., Rogersville; Paul H. Rother, M.D., St. Charles; and Forrest H. Kendall, M.D., Kansas City. The Council elected Larry G. Piepergerdes, M.D., as chairman of the MSMA Council.

Dr. German was born in Kansas City, Missouri, and completed his undergraduate degree at Washington University, St. Louis, in 1947. He attended the Washington University School of Medicine, receiving his medical degree in 1951.

He completed an internship at Jackson Memorial Hospital, Miami, Florida, and served his residency at Grady Memorial Hospital, Atlanta, Georgia.

Long active in organized medicine, Dr. German is a past president of the Greene County Medical Society and president of the Greene County Medical Society Business Bureau. At the state level, he has served on the Missouri State Medical Association Executive Council for seven years, MSMA Council Chairman, and finally as President-Elect in 1984. He was Key Contact Chairman from the program's inception in 1977, until 1984. ■

PRO monitoring project underway

The American Medical Association announces an innovative new program to evaluate physicians' and hospitals' experiences with the Peer Review Organizations (PROs) set up to monitor the health care delivered to Medicare beneficiaries. Under the PRO program, both utilization and quality issues will be looked at by state-level PROs under contract to the federal government. A percentage of all Medicare discharges will be reviewed with respect to a set of quality and utilization objectives contractually agreed to by each PRO with the Health Care Financing Administration (HCFA).

The AMA is interested in learning of individual physicians' and hospitals' experiences, both positive and negative, which they feel are attributable to the new peer review system. While the AMA is interested in all relevant experiences, areas of particular interest would include: changes in length of stay, admission and discharge policies, preadmission certification procedures, utilization and quality review results, administrative relations between hospitals and physicians and the PROs, any demonstrable impact that PRO review may have on the cost or quality of care, and the results of any PRO efforts to review patients other than Medicare beneficiaries.

Physicians or hospital medical staffs who would like to share this information with the AMA are encouraged to describe their experience(s) in a brief letter and direct it to: AMA PRO Monitoring Project, Department of Health Care Financing & Organization, American Medical Association, P.O. Box 10947, Chicago, Illinois 60610.

All sources of information provided will be kept confidential. The data will be carefully analyzed and the results used by the AMA as the Association pursues further involvement with PROs and as it develops new ways to assist physicians and medical staffs in dealing with this program. ■

Dr. Signorelli recognized for his contributions

A. J. Signorelli, M.D., St. Louis, was presented with the 1985 MSMA Citizenship and Community Service Award during the Association's annual convention held in Kansas City.

Dr. Signorelli is executive medical director of Faith Hospital in St. Louis. Dr. Signorelli founded Faith Hospital in 1937 to ensure that Italian-speaking patients would be treated by a hospital staff that spoke and understood their language.

Faith Hospital has grown since its 35-bed beginning into a hospital complex on 100 acres of farmland. More than 300 physicians are on its staff, and the hospital boasts the lowest per diem charges in the area — due in large part to its strong financial standing.

In accepting the award, Dr. Signorelli thanked the Association for what he called a recognition that means more than any other award he has received.

MSMA President James M. Stokes, M.D., also made a presentation in appreciation of Missouri Sen. Harry Wiggins (D-Kansas City) and Rep. Gladys Marriott (D-Kansas City).

Senator Wiggins was longtime chairman of the Senate Public Health Committee, and is now vice chairman of the committee. He is currently working on legislation to create a separate Department of Health, an action supported by the MSMA.

Rep. Marriott is a longtime friend of medicine. She is nationally known for her work with state government health and pension plans.

Another Missouri legislator, U.S. Rep. Alan Wheat, Fifth District, was the featured speaker at the annual MSMA Auxiliary Public Affairs Breakfast. In his address, he urged physicians to work in all phases of legislation. ■

Letters to the Editor

Phenytoin should be administered orally or intravenously

Dear Dr. Burkey:

In the March 1985 issue of *Missouri Medicine,* Dr. Martin Alpert in his article entitled "Alcohol Withdrawal Syndromes, Management" recommends the use of oral or intramuscular phenytoin for delivering a maintenance dose of this anticonvulsant medication. Phenytoin is slowly and unpredictably absorbed following intramuscular administration. The parenteral solution is highly alkaline and the active ingredient often precipitates into crystalline form when injected into a muscle and may produce muscle necrosis. Peak serum levels of phenytoin are achieved in about 24 hours after a single intramuscular dose. These levels vary widely and are significantly lower than those achieved with the same dose given orally or intravenously.

There really is no situation in which the intramuscular use of phenytoin can be recommended since it is well absorbed orally and quite safe when given intravenously if the dose rate does not exceed 50 mg per minute.

Harry H. White, M.D.
Columbia

Physician responds to Medicare charges of "abusive practice"

Dear Dr. Burkey:

I am sending you the enclosed copy of a letter I recently received from Medicare Part B/General American and my reply to that letter with the hope that you will take the time to carefully read both and consider what I believe to be ominous implications of such thinking and regulations.

Without arguing all of the pros and cons of the value of "annual examinations," the letter I received does not even specify "annual" — just "routine physical exams." What is considered the most basic of concepts in all of medicine, and especially in Internal Medicine, the physical examination (actually the basic history and physical examination), is not paid for! And even more urgently distressing is the rather clear threat that to continue performing examinations would be considered "abusive practice"! This is the term that is used to describe actions considered by Medicare regulations to warrant sanctions of various kinds to physicians, including large fines or imprisonment!

In my letter, I also refer to another form of harassment that has become rather commonly employed by both Medicare and various insurance companies — the repeated requests for explanations of why a physician has done an examination, various test procedures, given an injection or other medication, etc. Often the reasons are so clearly obvious to a physician that to have to explain them becomes insulting; at other times, it is clearly obvious that to understand the reasons would require medical knowledge and insight that would only occur after a medical school education. In either case, the physician's time spent on these explanations often exceeds the time actually spent taking care of the patients! This sort of activity is never efficient or cost-effective and is always unjust to the physician who is not compensated in any manner for this time spent.

I urge you to react to these matters in any manner that you believe appropriate — but please react!

Joseph B. Vacca, M.D.
St. Louis

(Editor's Note: The letter from Medicare Part B/General American and Dr. Vacca's reply are reprinted below.)

Dear Dr. Vacca:

Federal regulations require that we conduct postpayment reviews of Medicare claims for services by various providers. Claims for your services processed during the period of October 1982 through May 1984 were selected for such a review.

A full scale review of your claims by our medical staff indicated that you are billing for routine diagnostic physical exams which includes laboratory tests, EKG's, chest x-rays and pulmonary function screens, and there is no diagnosis or symptom to warrant the medical necessity of many of these tests. Medicare does not pay for routine physical exams.

Section 1862(a)(1) of title XVIII of the Social Security Act states: "(a) Notwithstanding any other provisions of this title, no payment may be made under part A or part B for any expenses incurred for items or services (1) which are not reasonable and necessary for the diagnosis or treatment of illness or injury, or to improve the functioning of a malformed body member."

The furnishing of services which are determined to be substantially in excess of the beneficiary's needs, or which fail to meet professionally recognized standards of health care, is considered an abusive practice under the Medicare Program. So that our medical staff can determine whether the services listed fall into this category or whether the problem is merely a lack of documentation, we would like your comments and any additional information that will explain the basis for administering the services cited, i.e., patient's condition, treatment plan, expected results, etc.

If you disagree with the findings of our medical staff, you have 30 days to submit the additional information that you feel is pertinent before the final decision will be made on your audit.

Phyllis Seka, Supervisor
Utilization Review
Medicare Program Control

Dear Ms. Seka:

I am in receipt of your letter, which I interpret as onerous and threatening. It seems that I have done something terribly bad — that is, I have actually *examined* my patients; and, equally serious and apparently against the law, I have had the audacity to charge them for this!

I am apparently accused of doing, and billing for, "routine diagnostic physical exams, which includes laboratory tests, EKGs, chest x-rays and pulmonary function screens and there is no diagnosis or symptom to warrant the medical necessity of many of these tests. Medicare does not pay for routine physical exams."

My response to these allegations are:

1. We do not "bill" Medicare; we "bill" the patient for services rendered, desired, and needed, and supply them with a statement to submit to you for their convenience;
2. "Routine diagnostic physical exams" do *not* "include laboratory tests, EKGs, chest x-rays . . . etc." A "physical examination" is the evaluation by a physician of the state of health in a patient's body and mind by looking, touching, feeling, and listening to a patient and his body parts. The exam may or may not be enhanced by the use of laboratory, radiologic, and other studies, but these do not constitute part of the "physical examination"!
3. As a trained and skilled internist, I believe that *all* patients that I see need a physical examination. The concept that if no named illness or "symptom" is found to "warrant the medical necessity" of examination (and its enhancements) then the examination was unneeded, is illogical and "after the fact"! If I knew before an examination that the patient was well and healthy I would not need to do the examination — but I would also have to possess supernatural powers!

Your interpretation of Section 1862 (a)(1) of Title XVIII of the Social Security Act seems to be that Medicare cannot pay for items or services which are not abnormal, whereas, in fact, that would be medically disastrous! Applied thus, only advanced and obvious (and probably untreatable or unimprovable) disorders could be examined for, tested for, or paid for! God help us all if that is what is wanted!

Your fourth paragraph is very threatening! Does "abusive practice," as you state it, mean or imply an "abuse" of the person of a patient (felony); or "abuse" of professional, ethical care (malpractice); or the misinterpretation of "recognized standards of health care" by *someone;* or "abusive" as grounds for legal action against me for breaking a law? Also, your statements that your "medical staff . . . can determine whether the services listed fall into this category ('abusive practice')" and, in the next paragraph, " . . . you have 30 days . . . before the final decision will be made of your audit . . . " are very disturbing.

At this time I choose *not* to submit any "additional information" to you or "your medical staff" since the custom of requesting and requiring repeated "proofs" of integrity and ability of physicians has become "abusive" by both Medicare and insurance companies, involving more of physicians' time than the actual rendering of medical care to their patients! In addition, based on my comments above and many other facts, I am certain that things obvious to an excellent, perceptive, and concerned physician about his patient will usually elude the grasp of a non-perceptive, unconcerned non-professional or even a professional whose perspective is altered by reason of salaried duty to someone or something other than the patient.

While I suppose our lawmakers can decide what Medicare will or will not pay for (perhaps to the detriment of the citizens), I do not believe you (or they) have the right to imply that I am doing something wrong or illegal by providing excellent medical care which requires "routine physical examinations" and tests sometimes not abnormal.

Because of my concerns as stated above, and based on advice of counsel, I formally request of you the following:

1. Please furnish the names, qualifications, organizations represented, official titles and/or designations with Medicare or General American of all members of your "medical staff" involved in my review;
2. Please furnish copies, as required, of all written and oral comments, opinions, and records of same, by *all* physician reviewers of my claims from October 1982 through May 1984; also, copies of records and deliberations and comments by individuals, groups, or by committee of said comments prior to, during, and subsequent to said deliberations;
3. Please furnish copies of non-physician records of said review along with all comments, recommendations, and data; furnish also, as required, the qualifications of Phyllis Seka, Supervisor Utilization Review, Medical Program Central, as well as of any/all of her staff involved in said review;
4. Advise me immediately of any and all possible actions, implied or real, to be taken by you, your "medical staff," "Medicare Part B," or General American Life Insurance Company in reference to " . . . the final decision . . . made on your audit."

Joseph B. Vacca, M.D.

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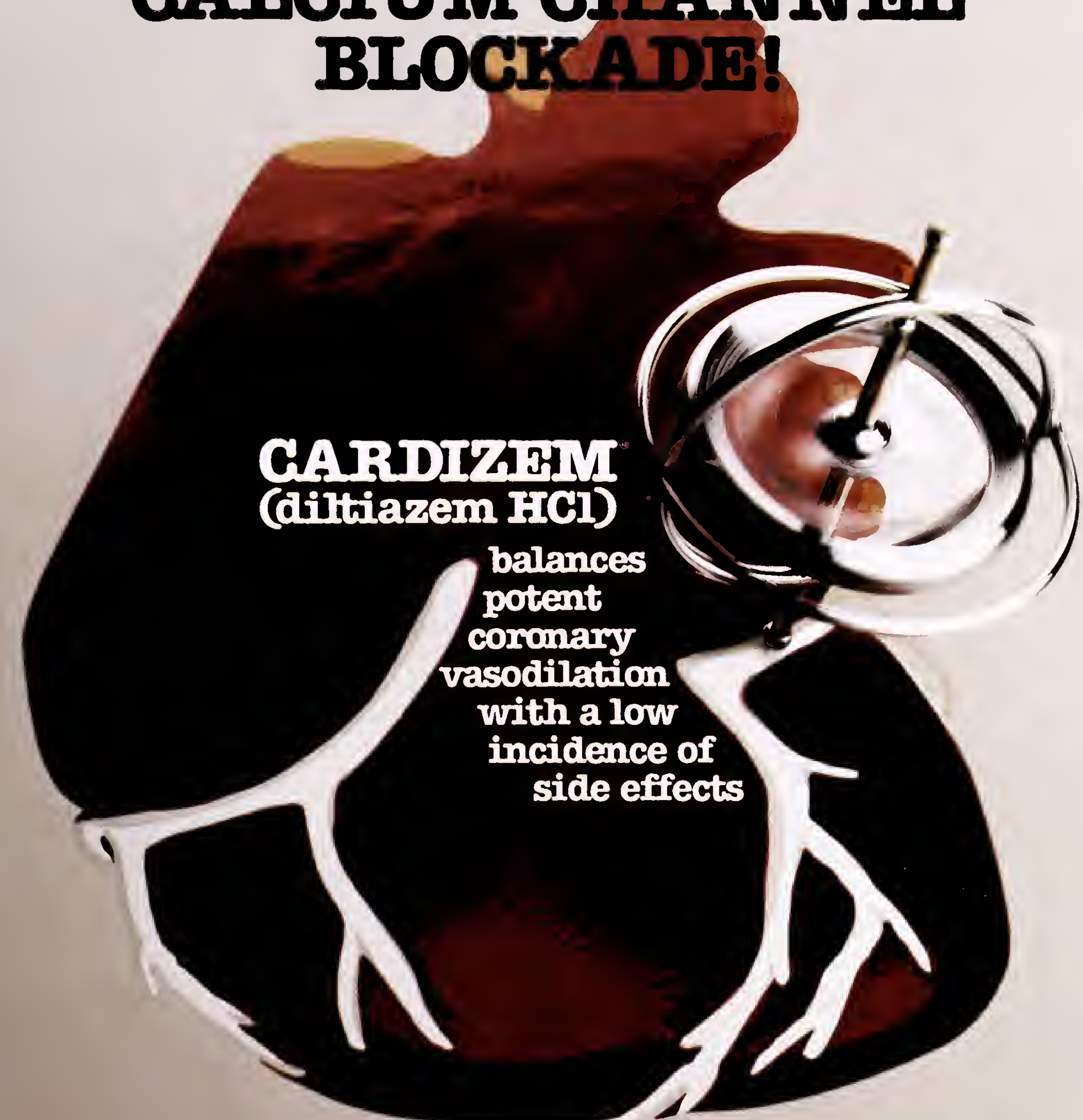

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References:

1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

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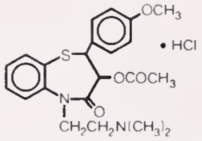

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1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy**—CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

The only way to reduce medical expenses much further is by rationing medical care, and such rationing is fast upon us.

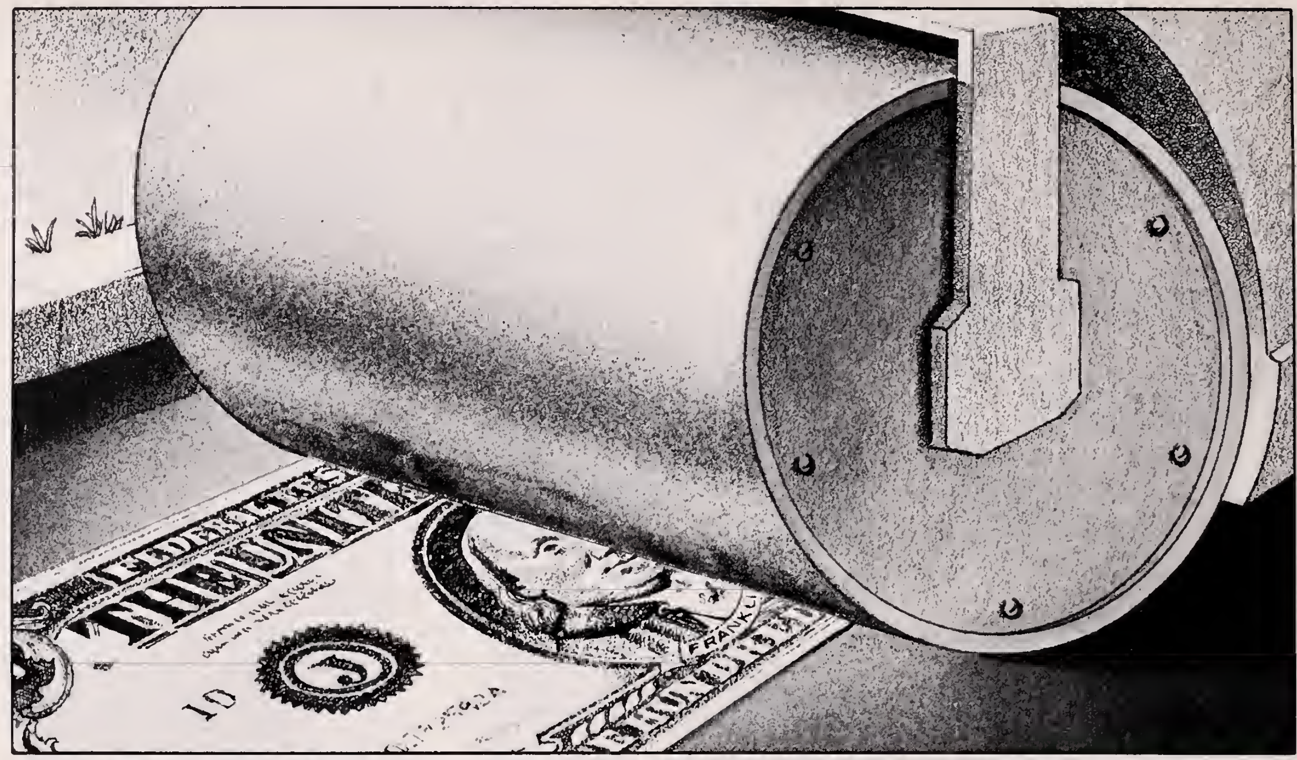
Past mistakes & present troubles

In this issue, there is a letter to the editor (see page 233) from a frustrated physician. No doubt his problem with encroaching medicine-by-the-numbers could be matched by similar stories from many of us. Physicians are trained to practice medicine in an intelligent manner and to do the best possible job of maintaining patients' health. The sometimes ridiculous bureaucratic definition of the way medicine must be practiced is often both an insult to our intelligence and a drain on our income. That brings up the crux of the matter: An increasing amount of money is now being spent on health care; the government has taken over much of the health care funding during the past 20 years; there is a large general budget deficit in government at this time; and, for political and economic reasons, health care expenditures are being cut.

If the multitude of regulations being set forth to reduce expenses in the field of medicine make good sense, often it is only coincidental. Medical care for one and all was a political rallying call of 20 years ago, and as an economist recently stated, we are now dealing with the mistakes of the 1960s and 1970s. The number of elderly has reached the point where 60 million persons are now on Social Security. The perverse fact is that by helping give longer lives to patients, physicians are adding to the problem. As the governor of Colorado recently stated, "Doctors make individuals well, but by their good deeds they make the economy sick."

One can, of course, argue the extremity of that statement, but it makes a point. The politicians and the public are sure that reductions in medical expenses can be made, and they are being made. Despite all the glowing oratory, the only way to reduce medical expenses much further is by rationing medical care, and such rationing is fast upon us. Those who have observed the health care field in Great Britain, where rationing is in effect, note that high profile problems have the greatest emphasis. Pediatric abnormalities, cancer, radiation and chemotherapy, and chronic hip disease are conditions which are well-funded. The basic physical examination as a part of good preventive medicine has a low profile; obviously allocation of funds under Medicare is subject to these same socio-political pressures.

This is a time of change and conflict in medicine and most doctors feel they are being manipulated. It's probably going to be hard to get a very sympathetic ear from Medicare; from a national standpoint, the leaders are far too worried about a projected $100 billion deficit by 1990 to listen to occasional complaints. Doctors do need to speak up, however, at the wrongs and inconsistencies they experience in the system. We need to do this individually and collectively, in our specialty, local and state societies. Maybe in some quiet, off moments we can let our minds wander, and remember medicine in the sensible way it used to be practiced. ■



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Guilio J. Barbero, M.D.
Columbia

The Joy and Pain of Being a Physician

In a day when the economic and medico-legal aspects of medicine are so dominant and produce so many strains on us, it is not surprising that little is written about the pleasures of the profession. Yet, I believe that most of us love it dearly and look forward to each day with considerable zest. Although some might say we work long, stressful hours purely for a financial objective, I suspect that many of us feel a deep-seated excitement about medicine and continue to be committed to our work.

In reflecting on some aspects of being a physician which carry great joy, as well as pain, the central feature that becomes evident is that, above all else, the patient is an individual person. There is such an infinite variety of biological and personal characteristics in man that a physician virtually can spend an entire lifetime in practice and not see the same constellation of signs and symptoms of an illness duplicated from one patient to another. The constant challenge is to decipher the pattern of signs and symptoms and then to design an appropriate therapy.

The longer I practice medicine, the more I am convinced that the wonderful array of diagnostic tools we now have available may frequently enhance and confirm our diagnosis and impressions, but they do not substitute for our mortal efforts involved in the care of a patient. And so, one of the greatest pleasures of being a physician is in the study of man and how he reacts in body, mind, and spirit. One sees almost a kaleidoscopic picture of man with all his intricacies of design and adaptations in even one day of caring for patients.

Of equal magnitude in the pain and joy of being a physician is the opportunity to be an observer and participant in the drama of the struggle between illness and health. Occasionally, one can feel the exhilaration of having been the agent of healing. At other times, one is humbled and privileged to witness such heroic handling of terminal illness by an individual patient. Even to stand by in the presence of death to offer solace by trying to understand human pain brings new growth to a physician. A fellow physician recently told me that a little bit of oneself dies with each patient with whom one has been close. He was right, but I have come to realize that a little piece of that patient lives on in each of us, and becomes a part of ourselves, enriching us and expanding our perceptions of the continuum we all have with each other.

It is interesting to read and listen to people criticize physicians frequently as "money-grubbing, uncaring and insensitive," or as the cause of their problems. When, however, individuals are truly ill and frightened of the uncertainty in life, they turn to a physician with hopeful trust and devotion in their need. It is this close relationship between a physician and his patients at intense moments of need that mark the unique closeness that develops in the sharing of the patient's struggle. Often, one might think that patients ask too much of physicians. Although at times this is true, I am struck by how much they give to us. Many years ago, Dr. Warfield Langcope said, "The relationship between doctor and patient partakes of a peculiar intimacy. It presupposes on the part of the physician not only knowledge of his fellow man, but sympathy. He sits, not as a judge of morals or of conduct, but rather as an impersonal repository for confession. The patient, on his part, must feel the need of aid, and few patients come to doctors except with this incentive. This aspect of the practice of medicine has been designated as the art; yet I wonder whether it should not, most properly, be called the Essence."

Thus, the fight for the well-being of one's fellowman, the deepening awareness of oneself often allowed in the service of others, and the closeness of people to our profession has many joys outweighing all the stresses. A good friend of mine, Dr. John Apley summed it up so well when he said, "To think they pay us for this!" ■

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PRESIDENT'S PAGE

by Walter A. German, M.D.

Health care for the aged is becoming an increasingly important problem which must be solved soon.

Who's paying for elderly health care?

Eleven percent of our current population is 65 years or older. By the year 2000, hospital days will triple and nursing home patients will increase in number by 54%. While the demand for nursing beds exceeds the current supply, constantly increasing medical cost is a limiting factor. Seventy percent of the elderly now depend on relatives to meet their personal needs, but again, rising costs are hampering this relationship. The typical nursing home resident is quite old (35% are 85 or older), female (76% are women), alone (86% have no spouse), long-staying (an average of 2½ years), and in need of more medical care (60%).

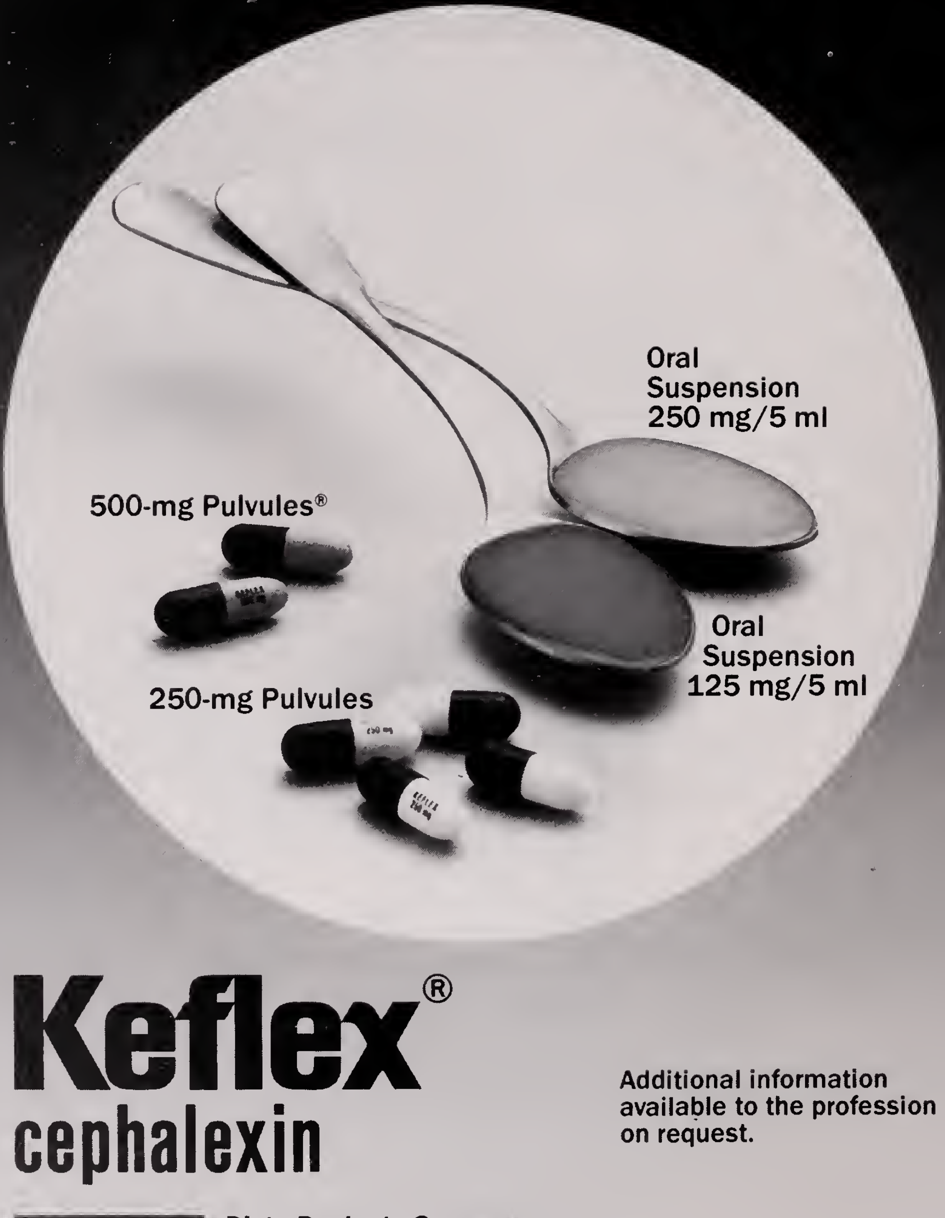
As the need for health care services by the aged increases, the government's ability to raise the tax dollars necessary to provide such care is significantly constrained. How then has this chain of events come about? The answer is multiple. The main causes include these facts: Fewer people are working to support more elderly people; The elderly usually have multiple diseases requiring longer and more expensive therapy; increased medical technology allows people to live longer; seventy-five percent of all medical expenses for the aged are for nursing home care, but, before Medicaid can help, the patient must expend all of their resources; and, 40 states already spend one-third of their Medicaid funds on nursing home care.

As one studies this problem, several possible solutions and alternative ways to finance acute and long-term care come to mind. These are as follows:

1. Keep the elderly out of nursing homes as much as possible by utilizing other available services on a home basis. These include home health care, personal care, homemaker service, monitoring, Meals on Wheels, adult day care, and Hospice. These programs are usually funded by community services, church groups, private individuals, etc. Some funds for some of these programs are available from Medicaid Title III and Title XX. Medical associations need to publicize these support systems and work in this fashion.
2. Increase the individual person's cost sharing and catastrophic coverage through deductibles, co-payments, reverse annuity mortgages, etc.
3. Prepaid financing of the services to the elderly such as through life care communities, HMOs, social HMOs, etc.
4. Increase the responsibility of the patient's care to extend to the entire family, not just the spouse.
5. Extend group health policies to include retirement disabilities.

I am sure there are other possible solutions, but these are the ones that come to mind. This short article suggests that health care for the aged is becoming an increasingly important problem which must be solved soon. Organized medicine and the Missouri State Medical Association should and must take the lead in this solution aided by the appropriate social services, the government, the private sector, and the family. ■

Easy To Take



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Auxiliary Message

by Chris Bohigian
(Mrs. George M.)

Our effectiveness can be as great as the support and encouragement you provide.

Doctor, our hats are off to you!

Each one of us wears many hats during our lifetime. Some are eagerly sought after, while others are reluctantly donned. Think for a moment, if you will, about your hats: Physician, spouse, parent, committee member, community leader, sports fan or participant, hobbyist or maybe handyman. Whichever hat you wear, pride in a job well done is a feather in that hat.

Auxilians, too, wear many hats. This year with HATS, we will **H**elp **A**uxilians **T**o **S**ucceed. Many of your spouses have accepted HATS as state and county leaders. By doing so, they have demonstrated their willingness to join an 80,000-member volunteer network dedicated to improving the quality of health care for mankind.

Under MSMA guidance, Auxiliary HATS will become involved in identifying new areas of concern, establishing effective programs and representing you, the physician. Legislative involvement, support of Missouri medical schools and students as well as the AMA Education and Research Foundation, and implementation of numerous community programs throughout the state are but a few of the areas in which HATS will continue to be seen.

Our effectiveness can be as great as the support and encouragement you provide. In turn, Missouri Auxilians have the ability to represent you in a positive and productive manner. As we begin a new Auxiliary year, we reaffirm our belief in and understanding of Missouri State Medical Association goals. They, too, are our goals.

It's been said that "success is a journey, not a destination." It has also been stated "Here's your hat, what's your hurry?" Well, we're not in a hurry, but we are embarking on a successful journey. Please join us Helping Auxilians To Succeed. ■

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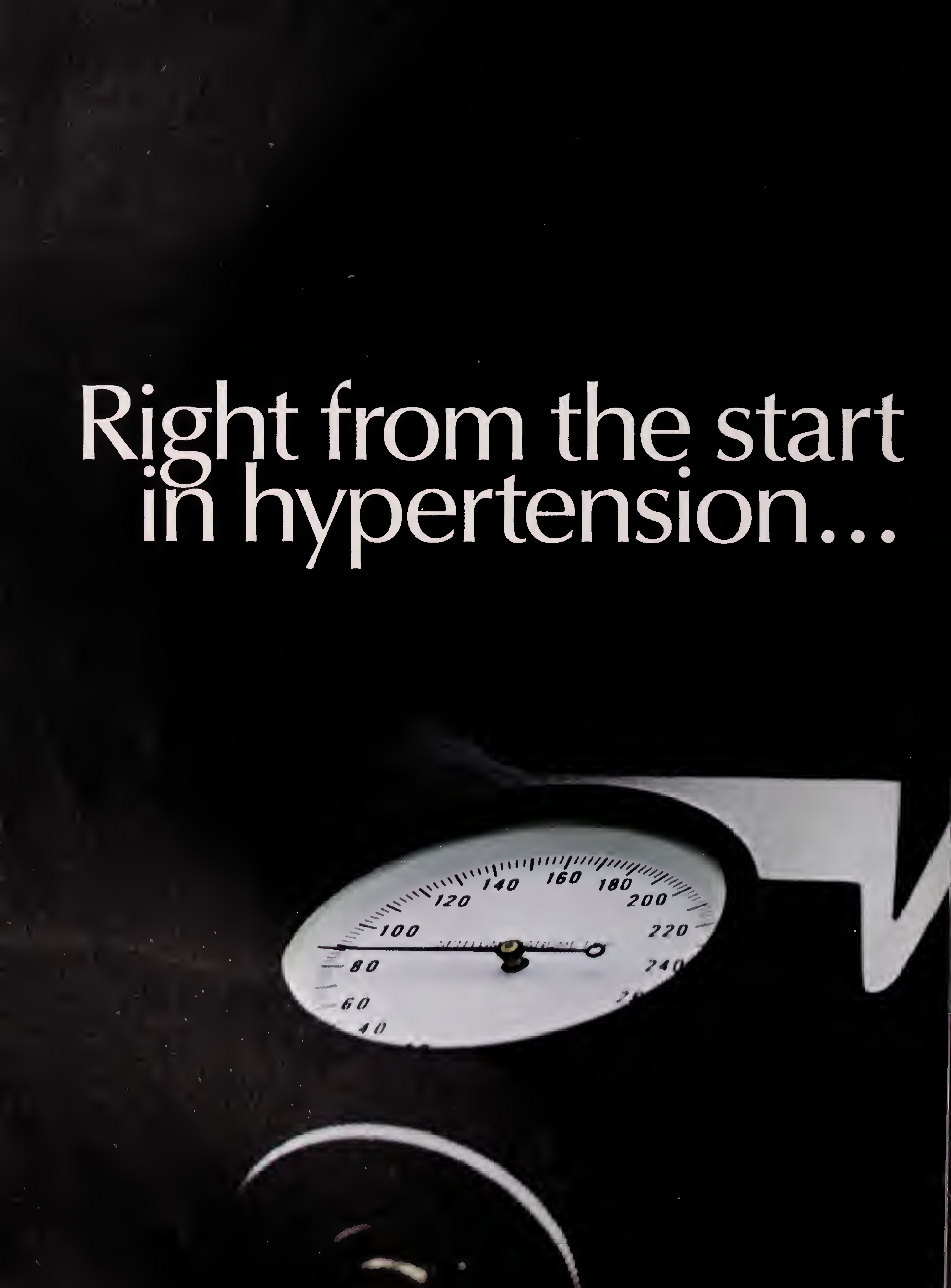
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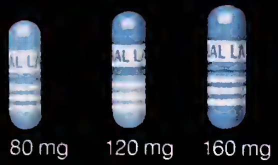

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CLINICAL PHARMACOLOGY. INDERAL is a nonselective beta-adrenergic receptor blocking agent possessing no other autonomic nervous system activity It specifically competes with beta-adrenergic receptor stimulating agents for available receptor sites When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately

INDERAL LA Capsules (80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL tablets The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially

INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product INDERAL LA can provide effective beta blockade for a 24-hour period.

The mechanism of the antihypertensive effect of INDERAL has not been established Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output, (2) inhibition of renin release by the kidneys, and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain Although total peripheral resistance may increase initially, it readjusts to or below the pretreatment level with chronic use Effects on plasma volume appear to be minor and somewhat variable INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients

In angina pectoris, propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate, systolic blood pressure, and the velocity and extent of myocardial contraction Propranolol may increase oxygen requirements by increasing left ventricular fiber length, end diastolic pressure and systolic ejection period The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity

In dosages greater than required for beta blockade, INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential. The significance of the membrane action in the treatment of arrhythmias is uncertain

The mechanism of the antimigraine effect of propranolol has not been established Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain.

Beta receptor blockade can be useful in conditions in which, because of pathologic or functional changes, sympathetic activity is detrimental to the patient But there are also situations in which sympathetic stimulation is vital. For example, in patients with severely damaged hearts, adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved In the presence of AV block, greater than first degree, beta blockade may prevent the necessary facilitating effect of sympathetic activity on conduction Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm

Propranolol is not significantly dialyzable

INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension, it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope INDERAL LA also improves exercise performance The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation Clinical improvement may be temporary

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL

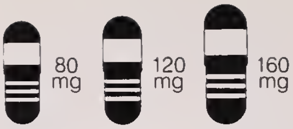
WARNINGS. CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible)

> IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors

MAJOR SURGERY The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.



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INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, e g , dobutamine or isoproterenol However, such patients may be subject to protracted severe hypotension Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers

DIABETES AND HYPOGLYCEMIA Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes In these patients, it may be more difficult to adjust the dosage of insulin

THYROTOXICOSIS Beta blockade may mask certain clinical signs of hyperthyroidism Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker In one case this resulted after an initial dose of 5 mg propranolol

PRECAUTIONS. *General* Propranolol should be used with caution in patients with impaired hepatic or renal function INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies

Beta adrenoreceptor blockade can cause reduction of intraocular pressure Patients should be told that INDERAL may interfere with the glaucoma screening test Withdrawal may lead to a return of increased intraocular pressure

Clinical Laboratory Tests Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase

DRUG INTERACTIONS Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia vertigo, syncopal attacks, or orthostatic hypotension

Carcinogenesis, Mutagenesis, Impairment of Fertility Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity There were no drug-related tumorigenic effects at any of the dosage levels Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug

Pregnancy Pregnancy Category C INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose

There are no adequate and well-controlled studies in pregnant women INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus

Nursing Mothers. INDERAL is excreted in human milk Caution should be exercised when INDERAL is administered to a nursing woman

Pediatric Use Safety and effectiveness in children have not been established

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy

Cardiovascular bradycardia, congestive heart failure, intensification of AV block, hypotension, paresthesia of hands, thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type.

Central Nervous System lightheadedness, mental depression manifested by insomnia, lassitude, weakness, fatigue, reversible mental depression progressing to catatonia, visual disturbances, hallucinations, an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics

Gastrointestinal nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis

Allergic pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory bronchospasm

Hematologic agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura

Auto-Immune In extremely rare instances, systemic lupus erythematosus has been reported

Miscellaneous alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily If patients are switched from INDERAL tablets to INDERAL LA capsules, care should be taken to assure that the desired therapeutic effect is maintained INDERAL LA should not be considered a simple mg for mg substitute for INDERAL INDERAL LA has different kinetics and produces lower blood levels Retitration may be necessary especially to maintain effectiveness at the end of the 24-hour dosing interval

HYPERTENSION—*Dosage must be individualized* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood pressure control is achieved The usual maintenance dosage is 120 to 160 mg once daily In some instances a dosage of 640 mg may be required The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks

ANGINA PECTORIS—*Dosage must be individualized* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three to seven day intervals until optimum response is obtained Although individual patients may respond at any dosage level, the average optimum dosage appears to be 160 mg once daily In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS)

MIGRAINE—*Dosage must be individualized* The initial oral dose is 80 mg INDERAL LA once daily The usual effective dose range is 160-240 mg once daily The dosage may be increased gradually to achieve optimum migraine prophylaxis If a satisfactory response is not obtained within four to six weeks after reaching the maximum dose, INDERAL LA therapy should be discontinued It may be advisable to withdraw the drug gradually over a period of several weeks

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use

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Special Article

Implications of PRO Denials for Missouri Hospitals and Physicians

Mohammad N. Akhter, M.D.

Dr. Akhter is executive vice president and medical director of the Missouri Patient Care Review Foundation.

Medicare, the federal health insurance program for the elderly and disabled pays nearly 40 percent of the nation's medical bills. According to federal estimates, over the next two years, 65,000 Missourians will be treated in doctors' offices or in outpatient clinics for medical problems that until now would have meant admission to acute-care hospitals. There are new federally financed agencies in every state whose jobs are to review the care given to Medicare patients. These agencies, staffed by doctors, nurses and medical records technicians are to assure that federal money is spent properly and that the patients get high-quality care. Each state agency has recently signed a contract with the federal government in which they agree to reduce hospital admissions by a specific percentage over the next two years.

In the State of Missouri, this agency is the Missouri Patient Care Review Foundation (MPCRF), an organization sponsored by the Missouri State Medical Association and the Missouri Association of Osteopathic Physicians and Surgeons.

By now, practically every physician who practices in Missouri hospitals and is taking care of Medicare patients has heard about denials, waiver of liability rebuttals, and denials of payment. The Missouri PRO, while doing the review for medical necessity, may deny an admission. This could be done either on a preadmission basis or on a retrospective basis. There are also what is known as administrative denials that are made for either incomplete attestation by the physician or missing medical records.

Administrative Denials

In an effort to maintain quality records and to assure that physicians agree with the contents of records, the federal government asked the MPCRF to review charts and procedures performed during the hospital stay of Medicare patients for attestation in the chart by the physician of the principal diagnosis. If such an attestation is not present at the time of review, that particular case is denied. Also, in instances where the hospital is unable to locate the chart on two separate occasions, one month apart, such an admission is also denied. A denial made under either of the two abovementioned conditions cannot be appealed to the MPCRF or HCFA.

There have been a handful of cases during the past six months in which we had to deny the admissions either because of missing medical records or incomplete attestation by a physician. We generally notify the hospital at least a week in advance about our visit and the numbers of charts we will be reviewing. This provides an opportunity for the hospital to assure that that record is available and that the attestation sheet has been signed by a physician.

Preadmission Denials

Effective Oct. 1, 1984, the MPCRF implemented the preadmission certification program. Under this program, the 15 conditions require preadmission certification (see *Missouri Medicine,*

> “To what degree should we expose our patients to a risk of poor outcome for budgetary restraints, and how much risk should a physician take in making that decision?”

Feb. 1985). A physician or his office staff must call one of the offices of the MPCRF to get the authorization to admit a patient to the hospital.

During the past three months, approximately 3% of the admissions have been denied. In other words, in 3% of the total cases for which calls were received by the MPCRF area offices, our medical directors and/or consultants determined that admission to the hospital was not necessary for that particular procedure and that the procedure could have been performed safely and effectively on an outpatient basis. If a physician fails to get preadmission certification and on subsequent review by the Missouri Patient Care Review Foundation we determine that the admission was not medically necessary, that admission is denied, and the hospital is not paid for that particular admission. This is one of the areas where cooperation between the physician and the hospital is absolutely essential to assure that preadmission certification is obtained prior to the admission from the MPCRF for these 15 conditions.

Retrospective Denials

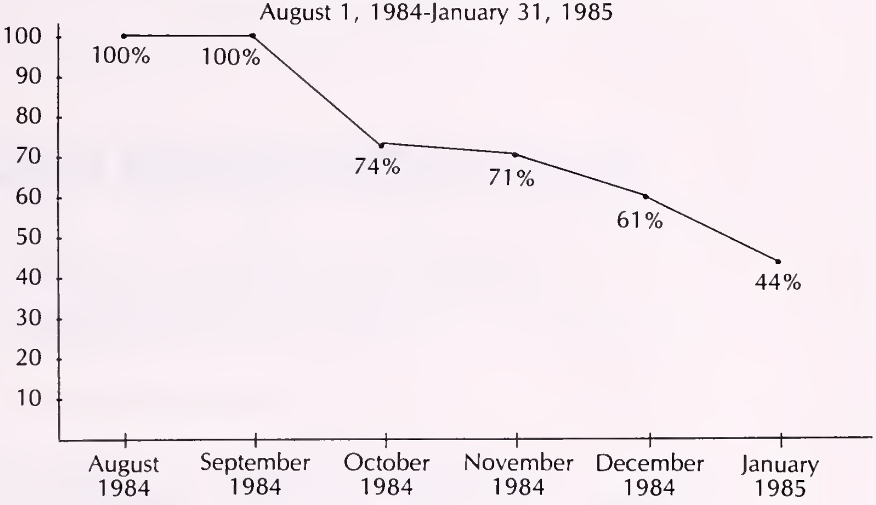
After Medicare patients have been discharged from the hospital and the hospital submits bills to Medicare for payment, the information is forwarded to the MPCRF, where we select a sample of cases for review from each hospital. Our reviewers then perform the review of the medical records to determine appropriateness of admission and to assure that the care delivered was of high quality. If they determine that the admission to the hospital was not necessary, a physician advisor may deny that particular admission. So far, we have reviewed over 41,471 records, and 2.9% of those admissions were denied.

Discussion

A wide range of studies have shown tremendous variation in medical care from one region to another and from one city to another. The studies have shown that residents of some cities are up to 20 times more likely to be hospitalized for certain medical problems than residents of other cities in the same state. This variation in medical practice causes the Health Care Financing Administration (HCFA) officials and Congress to think that there are unnecessary admissions to hospitals and probably, in some instances, unnecessary treatment being provided to patients. Unnecessary treatment is treatment which has no reasonable probability of improving the patient’s condition. HCFA believes that in those areas, a very substantial amount of care could be shifted out of the hospitals. The best way to accomplish this, they believe, is by penalizing those who admit patients to the hospital either for unnecessary treatment or for conditions which could be taken care of safely and effectively on an outpatient basis.

Denial of three cases (and/or 2.5% of the total number of cases reviewed by the Missouri Patient Care Review Foundation) could lead a hospital into so-called “intensified review,” which means 100% of the Medicare admissions to that hospital will be reviewed by the MPCRF during the following three months. During the intensified review period of three months, the hospital begins losing money for any unnecessary admissions. This is what is termed as “lifting the waiver of liability” from a hospital. At the present time, 27% of the state’s hospitals are under intensified review, i.e., 100% of their Medicare admissions are being reviewed. Most of these hospitals are in the rural areas.

Table 1
Percent of Denial Cases Paid under Waiver of Liability
August 1, 1984-January 31, 1985



Some hospitals in Missouri, where the denial rate has gone as high as 18%, have been losing money. Under current economic conditions, not being paid for services provided for Medicare patients creates an extensive burden on the hospital and puts the future of that hospital in jeopardy. There has been a considerable decline in the number of cases admitted to Missouri hospitals. Denial of payment for even a small number of cases could put a small hospital out of business.

Recently, HCFA has determined that it is in the best interest of the hospital to establish its own denial mechanism. A hospital in the future will be able to deny admission to a hospital of a Medicare patient before the admission, at the time of the admission, or after the admission. To be able to accomplish this, a hospital must have a favorable waiver of liability, that is, the hospital has not been for the past three months under intensified review. The hospital must have a utilization review committee that should review such admissions and issue denials. When such a denial is issued by the hospital, the patient will have a choice of receiving care as an outpatient or as an inpatient. However, if the patient decides to be treated as an inpatient, he or she will be financially responsible for the care provided by the hospital.

The MPCRF is required to review all such denials made by the hospital to assure that those denials were appropriate. If the hospital is found to have more than 5% inappropriate denials made during a three month period, the prerogative of the hospital to issue denial will be taken away from the hospital.

Some procedures, we all agree, can be done in an outpatient setting; but there are others that are much less clear. To what degree should we expose our patient to a risk of poor outcome for budgetary restraints, and how much risk should a physician take in making that decision? This is a challenge that the MPCRF and all the physicians in Missouri are faced with. We, as a professional organization, believe that such decisions should be made strictly on a case-by-case basis by physicians, keeping in mind the community standards and following the established criteria and guidelines.

To assure fairness in the review process, the MPCRF has an established reconsideration mechanism for all denials. The reconsideration request can be made within sixty days to the MPCRF. The Foundation, within thirty days, provides for the reconsideration by referring that particular case to another physician or group of physicians.

During the six month period between Aug. 1, 1984 and Jan. 31, 1985, 66% of all cases denied were paid under waiver of liability. Thirty-four percent of the cases were not paid, and the hospitals had to absorb the cost of treatment of those patients.

Table 1 shows the percentage of cases paid under waiver of liability. In the months of August and September of 1984, 100% of cases denied were paid under the waiver. There has been a steady decline since then; and in January of 1985, only 44% of the cases were paid under waiver of liability. In 56% of the cases, the hospitals had to absorb the cost. With more and more hospitals coming into 100% (intensified) review and subsequently losing their waiver of liability, we believe this is going to get worse. This will create difficulties, particularly for the marginal hospitals. It is important, therefore, that the physician and hospital cooperate in making sure that only those patients needing inpatient care are admitted to the hospital. ■

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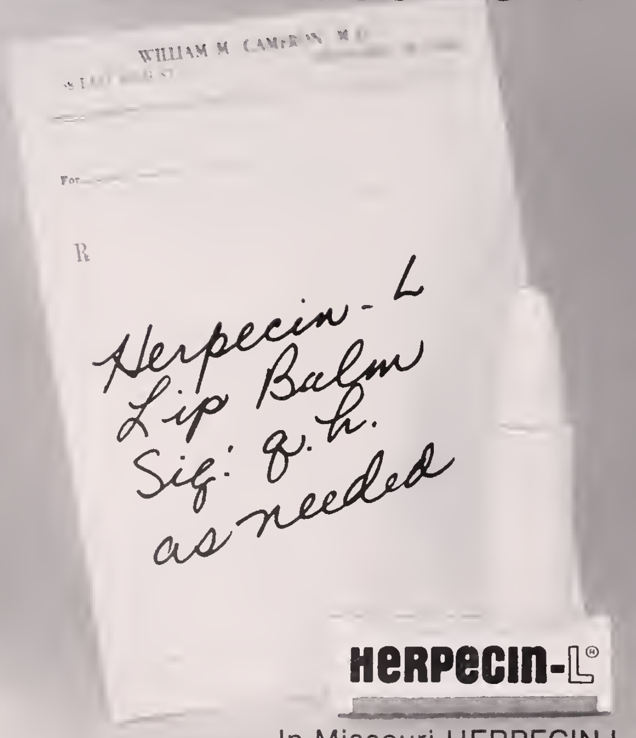

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Diagnosis and Treatment of Laryngeal Carcinoma

Jerry Templer, M.D. and Robert F. Thompson
Columbia, Missouri

The five-year survival rate for patients with cancer of the larynx has steadily improved over the past few years. Further improvement may be accomplished if primary care physicians become more aware of the symptoms of the early stages of the disease. Risk factors, tumor classification, diagnostic methods and treatments are discussed.

Carcinoma of the larynx is a relatively uncommon malignancy, accounting for fewer than 1% of the cancers diagnosed today. For this reason, symptoms are frequently overlooked and patients often visit several physicians before the larynx is examined. Still, an estimated 11,100 new cancers of the larynx will occur in the United States this year, and of the 450,000 predicted cancer deaths, 3,750 will be due to carcinoma of the larynx. The majority of these patients are between 40-69 years of age, are smokers, and are male. The current male to female ratio is about 5:1. The five-year survival rate for all patients today is estimated at 67%. In 1973 it was estimated at 62% and in 1963 at 53%. Early detection and treatment may be partially responsible for the improved success rate. Further improvement requires a higher index of suspicion by the primary care physician.[1, 2]

Etiology

Epidemiologic evidence implicates the use of tobacco as the predominant factor in the development of cancer of the larynx. Observed increases in cancer of the larynx in females probably reflect the increasing incidence of cigarette smoking by women. Alcohol, in combination with tobacco use, appears to increase the occurrence of laryngeal cancer. However, alcohol alone has little causative effect. Occupational exposure to asbestos or wood dust influences the development of the disease, but no other occupational carcinogens have been substantially implicated.

Anatomy of the Larynx

Because treatment and prognosis depend in part on the location of the tumor, a discussion of laryngeal carcinoma must begin with a basic understanding of the anatomy of the larynx. The supraglottic larynx includes the laryngeal surface of the epiglottis, the aryepiglottic folds, the laryngeal surface of the arytenoids, the false cords and the ventricles (Fig. 1). The lymphatic drainage of the supraglottic larynx courses from the epiglottis inferiorly toward the false cords and through the thyrohyoid space to cervical

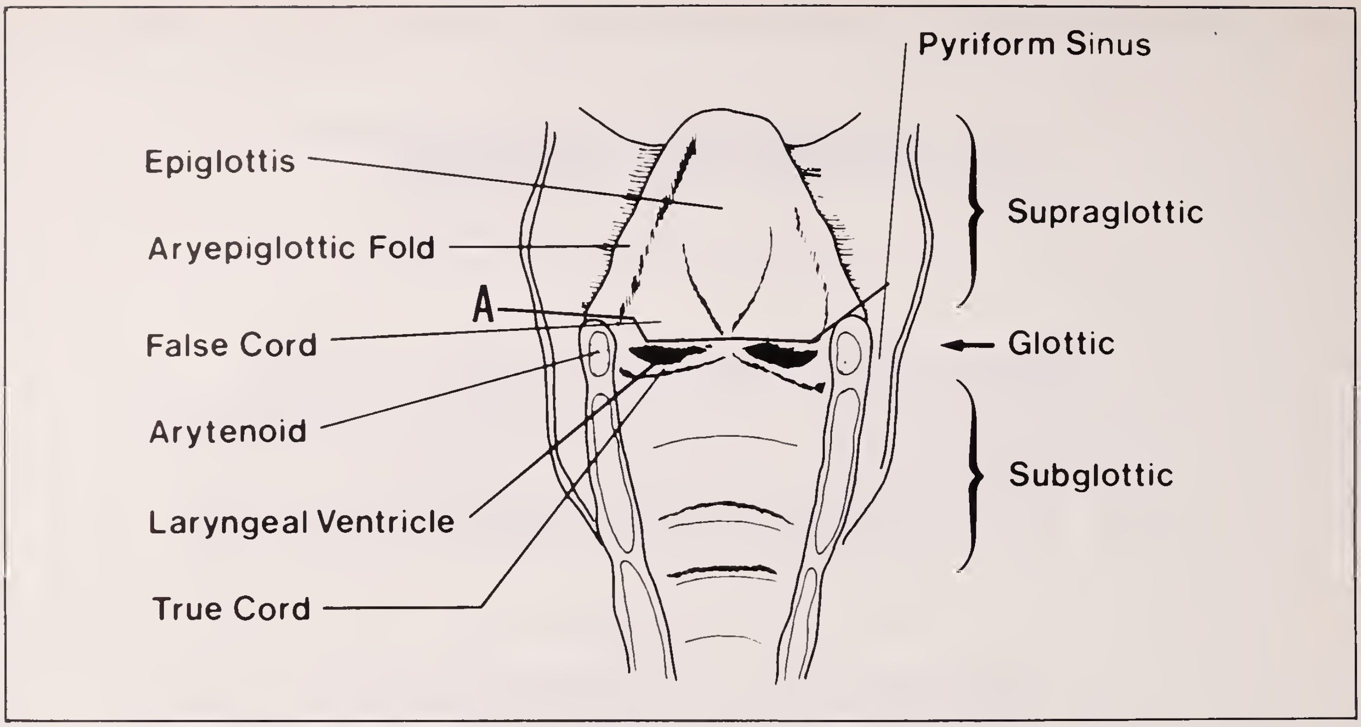

Figure 1. Structure of the larynx. (A) represents the inferior boundary of a supraglottic laryngectomy.

nodes. The ventricles drain separately from the false cords.

The glottic portion of the larynx consists of both true vocal cords and the anterior and posterior commissures. The lymphatic drainage of the glottis is minimal and separate from the supraglottic larynx.

The subglottis extends from the inferior border of the true vocal cords to the lower aspect of the cricoid cartilage. The anterior subglottis drains to the cricothyroid node anteriorly and then to the pretracheal and supraclavicular nodes. The posterolateral portions of the subglottis drain through the cricothyroid membrane to the paratracheal nodes and to the superior mediastinum.

Pathology

The most common malignancy of the larynx, squamous cell carcinoma, accounts for 95%-98% of all laryngeal malignancies. Other, rare tumors include pseudosarcoma, small cell carcinoma, adenocarcinoma, metastatic carcinoma and sarcomas. Squamous cell carcinoma sometimes is preceded by keratosis (or leukoplakia), but a relatively small percentage of keratotic lesions progress to invasive carcinoma. The immediate precursor of invasive carcinoma is carcinoma in situ, in which the epithelium becomes anaplastic but has not yet invaded the basement membrane.

Attempts have been made to correlate prognosis with histologic grading of laryngeal cancers; however, this relationship has been of minimal significance. The amount of tumor invasion at the host-tumor interface correlates with the incidence of cervical node metastasis, yet the pattern of tumor spread is most dependent on the site of origin.

Symptoms

Patients with supraglottic tumors often have throat pain, cough, dysphagia, a neck mass or otalgia. Ipsilateral ear pain is referred via the vagus nerve and is often related to invasion of the aryepiglottic fold or pyriform sinus. More advanced lesions may cause hemoptysis, airway obstruction and hoarseness. These tumors frequently metastasize early to ipsilateral or contralateral neck nodes.

The glottis is the most common site of laryngeal cancer, and the majority of the patients experience hoarseness. Early treatment cures 80%-90% of the glottic tumors. The high cure rate of these neoplasms is attributed to several factors including early appearance of symptoms and the sparse lymphatic supply of the vocal cords. Fixation of the vocal cords occurs with invasion of the true vocal cord musculature.

Primary subglottic tumors occur least frequently. Patients experience airway obstruction or hoarseness. Usually there are no symptoms until the tumors are advanced. The vast lymphatic supply to the subglottic region provides routes for early metastases.

Symptoms of tumors of the pyriform sinus often include dysphagia, throat pain, otalgia and weight loss. Because these tumors are more advanced at the time of diagnosis, the prognosis is significantly worse. The pyriform sinus, though often referred to as the extrinsic larynx, is considered within the hypopharynx and should be discussed with cancer of the vallecula, base of tongue and pharyngeal wall.

Diagnosis

Early diagnosis of laryngeal carcinoma requires an awareness by the primary care physician. Cigarette

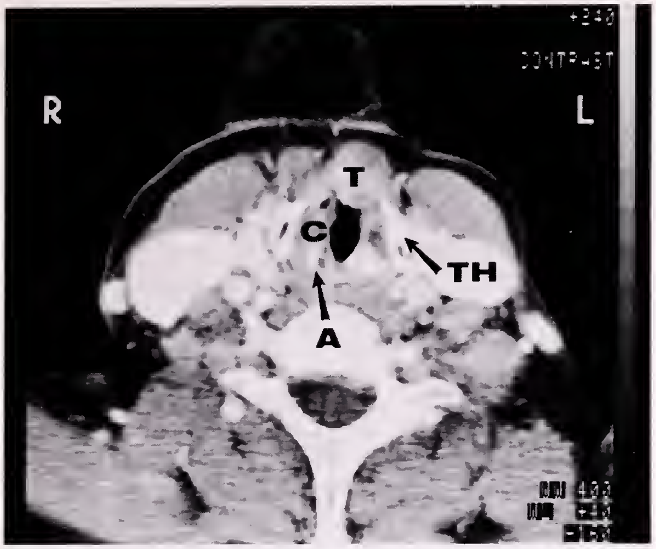

Figure 2. CT scan demonstrating a tumor (T) at the level of the glottis that has invaded the thyroid cartilage anteriorly. Arytenoid cartilage (A), thyroid cartilage (TH), abducted vocal cords (C).

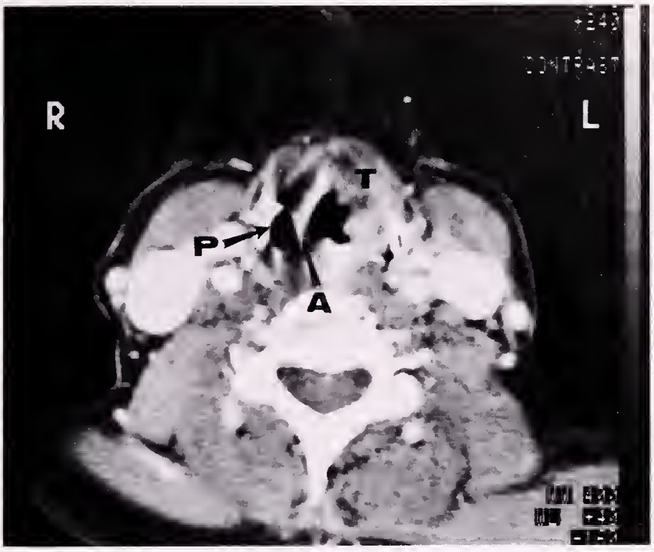

Figure 3. Stage 4 carcinoma at the level of the supraglottis. Again, the tumor (T) has invaded the thyroid cartilage anteriorly and has distorted the larynx significantly. Pyriform sinus (P), aryepiglottic fold (A).

smokers who complain of unexplained hoarseness for longer than two weeks should receive a thorough head and neck examination including indirect laryngoscopy. Other symptoms mentioned in the previous section should alert one to the possibility of a laryngeal neoplasm. If indirect laryngoscopy findings are normal and the symptoms persist, the patient should be referred for direct laryngoscopy and biopsy under general anesthesia. All obvious lesions require a biopsy for an accurate tissue diagnosis, as well as for definition of tumor extent. These patients are also at risk for bronchogenic, as well as laryngeal carcinoma. As many as 15% of patients with a history of squamous cell carcinoma will also have a second primary site of the upper aerodigestive tract. This cannot be ignored.

Additional diagnostic measures include radiographic procedures, most notably contrast laryngograms, soft tissue radiographs, and computed tomography (CT) scans. The latter procedure has recently been advocated when laryngoscopy findings are inconclusive, and when the extent of laryngeal lesions is to be defined (Figs. 2, 3).[3] Tumor extent, however, may be overestimated on CT scan, due to edematous changes within the larynx.[4, 5]

Tumor Classification

Carcinomas of the larynx are staged according to the TNM classification system as a means of estimating the prognosis and as a guide to the most appropriate therapy for an individual patient. The classification of laryngeal carcinoma is complicated by the fact that the tumors are staged according to location: supraglottic, glottic or subglottic. We have summarized the TNM classification by condensing the format into a more general scheme (Table 1).

Treatment

Radiation therapy and surgery are the most effective modes of treatment for carcinoma of the larynx. T1 and T2 carcinomas of the supraglottic larynx are frequently treated with radiation for cure. An alternative approach is supraglottic laryngectomy, which preserves normal glottic function (Fig. 1). Due to the high incidence of occult metastases, some also advocate radical neck dissection or radiation therapy. T1 glottic lesions, however, are treated equally effectively with radiation therapy (RT) or hemilaryngectomy (Fig. 1). Voice is better preserved in patients treated with RT, but surgery is slightly more successful in preventing recurrence. Advocates of radiation therapy claim that more larynges can be preserved if patients are treated initially with RT, reserving surgery only for salvage. Surgeons dispute this claim because recurrent carcinoma usually requires total laryngectomy with total loss of glottic function. Thus, the choice between RT and surgery for most T1 glottic cancers is somewhat controversial. Most will agree, however, that involvement of the anterior or posterior commissure of the vocal cord reduces radiocurability and necessitates surgery.

T2 lesions of the larynx are usually treated with radiation therapy since these patients are frequently not candidates for conservation surgery (hemilaryngectomy or supraglottic laryngectomy). RT alone is slightly less effective than total laryngectomy, but surgery is usually reserved for salvage of patients who are radiation failures. T2 carcinomas with partial vocal cord movement may respond more like T3 tumors and require treatment as such. Carcinomas rarely arise from the subglottic region, but instead usually arise from the inferior true vocal cords, and therefore by definition are T2 or greater. The therapeutic approach to subglottic tumors is similar to that of advanced glottic tumors.

T3 lesions (fixed vocal cords) signify deep tumor invasion and require radical surgery, which is signifi-

Table 1
Modified TNM Classification for Carcinomas of the Larynx

Tumor	
T1	Limited to 1 region with normal vocal cord mobility
T2	Extension of the tumor to involve at least 2 of the 3 regions with normal vocal cord mobility
T3	Limited to the larynx with vocal cord fixation
T4	Extension through or beyond the larynx to other tissue structures
Node	
N0	No clinically positive node
N1	Single clinically positive node 3 cm or less in diameter
N2	Single or multiple unilateral nodes less than 6 cm in diameter
N3	Single node greater than 6 cm in diameter or bilateral clinically positive nodes
Metastasis	
M0	No distant metastasis
M1	Distant metastasis present
Stage	
I	T1,N0,M0
II	T2,N0,M0
II	T3,N0,M0 or T1-3,N1,MO
III	T3,N0,M0 or T1-3,N1,M0
IV	T1-3,N2-3,M0-1 or T4,N0-3,M0-1 or any T, any N,M1

cantly more successful than RT in controlling these tumors. Total laryngectomy is the recommended surgical approach. Radical neck dissection is performed if involvement of cervical nodes is detected. Postoperative radiotherapy may have the additional effect of eradicating microscopic remnants of the primary and undetected cervical node metastases and is therefore advocated. T4 tumors require a similar treatment, although the prognosis is significantly reduced.

Chemotherapy has been used with limited success in the treatment of laryngeal carcinoma and as adjuvant therapy for lesions fixed to vital structures before or after surgical excision. It is especially desirable since laryngeal tumors often recur locally after the maximum RT dosage has already been utilized. The success of chemotherapy for head and neck tumors depends somewhat on the location of the tumor, although no location appears particularly susceptible. The well-differentiated tumors seem most responsive, and prior treatment with radiation or surgery diminishes the responsiveness, probably as a consequence of decreased perfusion. The effectiveness of chemotherapy is difficult to assess due to the variability of tumor location and the problem of determining response (usually defined as a 50% reduction of tumor mass) due to the location.

Several clinical trials have reported the effectiveness of single agent therapy with methotrexate, cisplatin and bleomycin in the treatment of head and neck cancers.[7] Methotrexate has induced an average response rate of about 30%, although the response is usually partial and of limited duration (3-4 months). Cisplatin has a similar response rate although some complete remissions of 6 to 8 months' duration have been reported. Bleomycin has been effective against epidermoid carcinoma, but has been effective in only 20% of head and neck squamous cell carcinomas. Several other agents, including 5-fluorouracil, hydroxyurea, cyclophosphamide, adriamycin, and vinblastine, have been tried with limited success. Combination chemotherapy regimens, especially with methotrexate, cisplatin, and bleomycin, have demonstrated better response rates over longer durations, but well-controlled clinical trials are still lacking.

Recently, more attention has been directed to combination regimens of chemotherapy, surgery and radiation therapy in the treatment of advanced tumors of the head and neck. Pretreatment chemotherapy is theoretically desirable since it may decrease the tumor size and render it more surgically accessible. Also, chemotherapeutic agents increase tumor vascularity and oxygenation, making the tumor more radiosensitive. Bleomycin, hydroxyurea and 5-fluorouracil have theoretical radiosensitizing capability, but clinical trials demonstrating this benefit are still lacking. Unfortunately, pretreatment chemotherapy prolongs the interval prior to surgery or RT. Chemotherapeutic agents also diminish postoperative wound healing and increase the incidence of postoperative infections due to the toxic effect on bone marrow. Post treatment chemotherapy has less effect on the primary tumor but may reduce the incidence of distant metastases. Still, data promoting the use of routine postoperative chemotherapy are inadequate. The role of chemotherapy in treatment of laryngeal carcinoma as well as other head and neck cancers will probably become greater as new agents are developed and as better combination therapeutic regimens are established through clinical trials.

Prognosis

A review of 162 patients diagnosed and treated for cancer of the larynx at University of Missouri Hospital and Clinics from 1972-1983 noted an overall cumulative five-year survival of 57.8% (Table 2). The overall five-year survival rate for glottic carcinoma was 71.5%, for supraglottic 49.3%, and for transglottic 42.9%. Patients were treated according to the guidelines previously outlined, although three patients refused therapy and followed a rapid, irreversible course. Survival was determined by a five-year cumulative actuarial method without regard for the cause of death. However, the mean five-year survival for a normal population with a mean age of 62.1 years and a male-to-female ratio of 4.3:1, as in our study, is 86.7%.[6] Of the six patients with T1 glottic cancers who died within five years of diagnosis, three died of unrelated causes, and two died of unknown causes. The adjusted actuarial survival approaches the 84%-98% 5-year survival of T1 glottic cancer that is frequently reported.[1] The results at this institution are otherwise similar to those published elsewhere.

Table 2

Cumulative five-year actuarial survival of patients with cancer of the larynx diagnosed and treated at this institution from 1972-1983, based on tumor location and stage.

	T1	*T2*	*T3*	*T4*	*Total*
Glottic	73.9% (n= 31)	72.6% (n= 28)	68.5% (n= 13)	— (n= 3)*	71.7% (n= 75)
Supraglottic	85.4% (n= 16)	46.2% (n= 10)	34.6% (n= 16)	— (n= 7)*	49.3% (n= 49)
Transglottic	— (n= 0)*	— (n= 7)*	52.1% (n= 24)	— (n= 6)*	42.9% (n= 37)
					57.8% (n= 161)

* due to the statistical insignificance of the sample size, survival was not determined for these subgroups.

** only 1 case of subglottic carcinoma was diagnosed and treated during this time period and was therefore excluded from the study.

Patients with cancer of the larynx have a relatively good prognosis especially when the tumor is confined to the true vocal cord. Again, this relates to the early effect on vocal quality and the sparse lymphatic drainage from the glottis. The morbidity is minimal for those patients treated with radiation. Radical surgery is obviously associated with loss of voice. Most patients learn esophageal speech following laryngectomy. For those with inadequate esophageal speech, a number of prosthetic devices may provide a reasonable voice, and these devices are being constantly improved.[8, 9]

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Intravenous Streptokinase Use in Acute Myocardial Infarction in a Community Hospital

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The use of intracoronary streptokinase to dissolve the obstructing clot in acute myocardial infarction (MI) is limited by access to cardiac catheterization laboratories. Intravenous administration of streptokinase, on the other hand, may be done in the community hospital with no special equipment. The use of intravenous streptokinase is advocated as a safe and effective treatment for acute MI.

The usual pathogenesis of an acute myocardial infarction (MI) is an occluding thrombus on an atherosclerotic plaque.[1] Dissolution of this thrombus allows reperfusion of ischemic myocardium, and may reduce eventual myocardial damage, morbidity and mortality.[2, 3] Thrombolysis has most often been achieved by intracoronary infusion of streptokinase, which requires an emergency coronary arteriogram. However, the majority of patients suffering an acute MI do not have immediate access to a catheterization laboratory, limiting the application of this technique.

Intravenous administration of streptokinase has two advantages: It may be given in community hospitals without catheterization laboratories, and it can be given quickly after the diagnosis of acute MI is confirmed. This paper reports results from the use of intravenous streptokinase in acute MI in a community hospital.

Materials and Methods

Between June 1983 and January 1984, 45 patients referred to the Independence (Mo.) Sanitorium for acute MI were given intravenous streptokinase. The patients' ages ranged from 40 to 82 years. There were 23 anterior infarctions and 22 inferior infarctions. The duration of the pain prior to streptokinase administration ranged from 30 minutes to four hours, with an average of 2.2 hours. All patients had classic symptoms of acute MI and typical ECG changes.

Informed consent was obtained in all cases after exclusion of contraindications for fibrinolytic therapy. Streptokinase was given intravenously in doses which varied from 250,000 units to 2.1 million units. The majority received 1.5 million units over 40 minutes, followed by a continuous infusion of intravenous heparin, similar to the protocol of Ganz and associates.[4]

Partial thromboplastin times were measured at approximately six hours and then every 24 hours after heparinization, and heparin dosage was adjusted accordingly.

Patients were transferred to the Mid America Heart Institute of St. Luke's Hospital, Kansas City, for coronary arteriographic studies and further treatment. Angiography was done as quickly as routine scheduling would permit, usually within 24 to 48 hours postinfarction. Thirty-seven patients underwent coronary angiography and left ventriculography. All but one were within seven days of streptokinase administration. This patient's study was delayed six weeks because the patient initially refused the procedure.

Not studied were four patients who died and two who had clinical contraindications for angiography. Eight patients later underwent repeat angiography for clinical reasons. Results of the repeat studies were compared to initial angiograms and assessed for improvement in left ventricular function. Six patients had intravenous streptokinase administered and were immediately transferred for angiographic evaluation. Of these six, all had patent infarct-related vessels at the time of catheterization, but because of residual clot received intracoronary streptokinase also.

Results and Complications

There were no serious bleeding complications associated with streptokinase administration. One patient developed hematuria associated with Foley catheter insertion, one patient had a hematoma associated with an intramuscular injection, and two had minor bruising. One person who had previously received streptokinase had skin erythema and mild temperature elevation.

A variety of arrhythmias were seen, but all were treated with standard drug therapy with good results. Ten patients had unstable angina following clinical evidence of reperfusion.

Five persons had clinical evidence of reperfusion and later evidence of re-occlusion. Four of these were on therapeutic doses of heparin at the time of re-occlusion. The fifth had had heparin therapy stopped in anticipation of bypass grafting; occlusion occurred just prior to the scheduled surgery. Revascularization was accomplished with no evidence of infarction in this patient.

There were five in-hospital deaths and no post-dismissal deaths. Two patients died within minutes after receiving streptokinase; both had been in severe cardiogenic shock prior to treatment. One died later in the hospital stay after suffering three separate myocardial infarctions. One person died late in the hospital stay from cardiogenic shock, and one died unexpectedly, possibly from myocardial rupture.

Recanalization

Relief of chest pain, clinical improvement, and decrease in ST segment elevation were noted, and were found to predict recanalization consistently on later angiography. In three patients, recanalization was doubted because of a lack of these findings, but patent infarct-related vessels were found on angiography.

Thirty-seven patients underwent coronary arteriography. Thirty-four of these had a patent infarct-related vessel, giving a documented recanalization rate of 92%. Eight others did not have angiography, and three of these had clinical and ECG evidence of reperfusion.

Residual coronary stenosis in the infarct-related vessel was 0% in one person, 30%-50% in five persons, and 70%-90% in the remaining 39 patients.

Estimated Clinical Benefit

The 45 patients were assigned to one of four categories by the attending cardiologist, based on the patient's clinical course, ECG changes, enzyme changes and, when available, angiographic data.

Without a control population, this categorization remains only an estimate of benefit. It should, however, provide more useful information than the rate of successful recanalization because some patients whose vessels recanalize are left with large infarctions and little or no viable myocardium in the area in jeopardy.

The four categories and justifications for assignment were as follows:

1. *Marked benefit.* There are 17 patients in this category. All but one underwent coronary angiography. The one patient had a cardiogenic shock condition that resolved after apparent vessel recanalization. The remaining 16 patients had high-grade proximal right or anterior descending lesions with minimal necrosis in their distribution. This group made up 38% of the total patient population.
2. *Moderate benefit.* There were 11 patients in this group, or 24% of the total population. All underwent angiography.The patients in this category had less than the expected amount of necrosis, but did have significant damage even with recanalization. All had high-grade proximal right or anterior descending lesions.
3. *Minimal or no benefit.* Three patients of the 12 in this category did not have angiographic studies done. These three were elderly patients with largely completed infarctions and no ECG improvement. The remaining nine patients had minimal motion or akinesis in the involved arteries distribution. This group was 27% of the total population.
4. *Death.* Only one of the five patients who died had undergone angiography. This patient died as a result of a second infarction in the anterior wall, having had an initial inferior infarction. The other four patients died before angiographic studies could be completed, or were otherwise not candidates for the procedure. Of the total, this group made up 11%.

These estimates show that 62% (28) of the patients received moderate to marked benefit from recanalization with intravenous streptokinase.

Management

Of the 30 surviving patients 11 underwent balloon angioplasty of the infarct related vessel, 11 had coronary bypass, and eight were treated medically. Angioplasty was chosen as management when high-grade single vessel disease was present. Surgical treatment was selected in cases of angioplasty failure or multivessel disease. Medical treatment was selected for patients who had largely completed infarctions, small areas of distribution of infarct-related vessels or residual lesions less than 50%.

Discussion

Early recanalization of coronary arteries by streptokinase is an exciting new approach to the treatment of acute myocardial infarction. Intracoronary administration has been shown to be effective in recanalizing vessels and salvaging myocardium,[5, 6] but application of this technique is limited by the availability of angiography and trained personnel.

Intravenous administration of streptokinase for acute MI has been utilized for years, but has never achieved widespread use. Several randomized trials, comparing intravenous streptokinase with standard treatment, are available from European studies. The results of eight studies were pooled and reported by Stampfer, et al.[7] Although streptokinase was often given late after initial presentation in these studies, there was a 20% reduction in overall mortality.

Recanalization frequency has varied from 30% to 90%, with the higher rates more often being reported when large doses of streptokinase are given.[4, 8, 9] This trend is borne out in our study, with 93% of infarct-related vessels patent on angiography.

For institutions without an angiography suite, options for recanalization therapy are on-site use of intravenous streptokinase, or referral to a center with angiographic facilities for intracoronary streptokinase administration or emergency balloon dilatation. Time for transportation to an angiographic center is a principal concern because of continuing necrosis during the transport time.

For institutions with an angiography suite, intravenous streptokinase may still be a reasonable option. Two randomized trials comparing intravenous to intracoronary streptokinase administration in acute MI suggest total ischemic time may be less with intravenous therapy, because of the time saved in set-up and performance of emergency catheterization. Berte, et al[10] estimated 100 minutes' less chest pain time with intravenous administration. Taylor et al[11] estimated 44 minutes' less chest pain time with intravenous administration.

Recanalization rates have been said to be higher with intracoronary than with intravenous streptokinase,[8] because a high local concentration of the lytic agent can be achieved. However, studies using high-dose, rapid administration of intravenous streptokinase have achieved recanalization rates similar to those achieved with intracoronary administration. Ganz and associates reported 90% recanalization using 1.5 million units of intravenous streptokinase.[4] Taylor,[11] using a 500,000 unit intravenous bolus and 200,000 units per hour for four hours, reports an 84% patency rate.

A possible reason for the reported lower recanalization rates with intravenous streptokinase is that inadequate doses of the drug were employed. Future studies should clarify the recanalization rates achieved with different doses of thrombolytic agent.

Bleeding complications associated with intravenous administration of streptokinase have been infrequent. Neuhaus[9] reported no major bleeding in 40 patients who received 1.7 million units of streptokinase. Spann[8] similarly reported no serious bleeding in 13 patients treated with 850,000 units of streptokinase intravenously.

The results are paralleled in the present study, with no serious bleeding encountered in the 45 patients. With proper patient selection, serious bleeding should be an uncommon complication, and is not a reason to choose intracoronary administration over intravenous administration.

Conclusion

Reperfusion of ischemic myocardium can be safely achieved with high doses of intravenous streptokinase. The major advantages of intravenous use of the drug are the potential for widespread use and the rapid initiation of therapy. The appropriate dose is yet to be determined, but larger doses may not have a higher risk and may result in a greater frequency of recanalization. Further comparisons between intracoronary streptokinase, emergency percutaneous transluminal coronary angiography (PTCA), and intravenous streptokinase with "standard" treatment must be made before the final place of these therapies in treatment of acute myocardial infarction is determined.

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Current Management of Squamous Cell Carcinoma of the Esophagus

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The case reports of 19 patients with squamous cell carcinoma of the esophagus are reviewed with respect to management of their condition and the results of treatment. Median survival for the group was 5.5 months. In light of the poor results from surgical therapy, with or without radiation, the need for effective systemic therapy is emphasized.

Carcinoma of the esophagus is a devastating disease for patients and a therapeutic challenge for the surgical, medical and radiation oncologists who must frequently combine their efforts in order to provide the patient with effective palliation and/or potential cure. The overall 5-year survival rate in the United States for this disease is approximately 5%. This has not improved significantly in the past 20 years despite advances in survival of many other forms of cancer during the same period.[1] However, there is some cause for optimism in that the palliation of these patients' condition is beginning to improve with the use of new multimodality treatment plans which include newer chemotherapeutic agents.

This paper is a retrospective study of the experience at St. Louis University Hospitals. In addition, a summary of our review of the literature is included to establish the current prevailing methods of treatment and their results.

Materials and Methods

All available records were examined retrospectively on all patients admitted to the St. Louis University Hospitals with squamous cell or undifferentiated carcinoma of the esophagus between the dates of June 1976 through June 1981. During this time 34 patients were admitted with the disorder, 14 of whom were treated at other institutions and are, therefore, not included in this study. All patients retrospectively were staged according to the American Joint Committee on Cancer Staging Classification (Table 1).[2] The records reviewed included the hospital chart, the radiation therapy chart, x-rays, nuclear scans and operative notes, where appropriate. Computed tomography (CT) scans were only used in the latter part of the study and, therefore, cannot be evaluated.

The segment of the esophagus in which the tumor originated was determined according to the guidelines of the American Joint Committee, with the cervical esophagus being defined as the segment between the esophageal-pharyngeal junction and a point 18 cm from the incisors. The upper thoracic esophagus was defined as the segment between 18 cm and 30 cm from the incisors, and the lower thoracic esophagus defined as that segment between 30 cm and the gastroesophageal junction, which is about 40 cm from the incisors. The cause of death was determined from autopsy reports in eight cases, from the final discharge summary in eight cases, and in four cases both from the discharge summary and confirmation biopsies.

Results

Table 2 lists relevant information about the 20 patients composing the study group. Mean age of the patients was 63.6 years with a range from 49 to 83. Sixty-five percent of the patients were male. Blacks outnumbered whites 15 to 5. The histological diagnosis in Patient #1 was undifferentiated carcinoma; in all others it was squamous cell carcinoma. One tumor originated in the cervical esophagus, nine in the upper thoracic, and 10 in the lower thoracic esophagus. There was one patient with clinical stage I disease, 10 patients with clinical stage II disease, three patients with stage III, and six patients with stage IV. Data on surgical staging was available in 14 patients who were

Table 1
TNM Staging for Esophageal Cancer

PRIMARY TUMOR (T)

Tis	Carcinoma in situ
T1	A tumor that involves 5 cm or less of esophageal length, that produces no obstruction, that has no circumferential involvement and no extraesophageal spread
T2	A tumor that involves more than 5 cm of esophageal length without extraesophageal spread or a tumor of any size that produces obstruction or that involves the entire circumference, but without extraesophageal spread
T3	Any tumor with evidence of extraesophageal spread

NODAL INVOLVEMENT (N)

Cervical esophagus. The regional lymph nodes in the cervical esophagus are the cervical and supraclavicular nodes.

N0	No clinically palpable nodes
N1	Movable, unilateral, palpable nodes
N2	Movable, bilateral, palpable nodes
N3	Fixed nodes

Thoracic esophagus. NX (clinical evaluation): Regional lymph nodes for the upper, midthoracic and lower thoracic esophagus that are not ordinarily accessible for clinical evaluation.

DISTANT METASTASIS (M)

MX	Minimum requirements to assess the presence of distant metastasis cannot be met
M0	No evidence of distant metasatasis
M1	Distant metastasis present

Table 3
Presenting Signs and Symptoms

Symptom/Sign	*# of Patients*	*% of Patients*
Dysphagia	19	95
Weight loss	18	90
Chest, throat or back pain	8	40
Regurgitation	6	30
Dyspepsia	3	15
Hemoptysis	1	5
Hematemesis	1	5
Blood + stool	1	5
Early satiety	1	5
S.O.B.	1	5

Table 4
Smoking and Drinking Habits of Study Patients

Habit	*Use*	*# of Patients*	*% of Patients*
Smoking	None	3	15
	<25 pack-years	0	0
	25-50 pack-years	3	15
	>50 pack-years	14	70
Alcohol	None	0	0
	<4 oz./week	6	30
	4-16 oz./week	2	10
	>16 oz./week	12	60

clinically stage I, II or III. Five of these (36%) increased in stage due to the surgical findings.

The most common signs and symptoms were dysphagia, weight loss and pain (Table 3). The majority of patients (70%) were heavy smokers with a greater than 50 pack-year history, and 60% consumed more than the equivalent of 16 ounces of alcohol per week (Table 4).

Survival rates by clinical stage and treatment modality are indicated in Tables 5 and 6 respectively and demonstrate no significant differences in this small sample ($p > 0.05$). All patients in this study have died. Seventeen patients died with evidence of disease. Of these, 11 had distant metastases, three had local recurrence alone and three patients had both local recurrence and distant metastases. Two patients died of complications within 30 days of resection. One patient died with disseminated malignant lymphoma without evidence of esophageal carcinoma.

Discussion

The incidence of carcinoma of the esophagus varies markedly by geographic area. The highest rates are found in portions of China, where the incidence is 139:100,000.[3] The incidence in the United States in white males is approximately 6:100,000 and in white females, approximately 1.6:100,000. The incidence in blacks in the United States is roughly three times higher.[4] Many factors are believed to contribute to the development of esophageal carcinoma. In the United States the major predisposing factors are a history of smoking and/or alcohol use, with the incidence increasing with their increased use.[5] In patients with Barretts esophagus secondary to chronic reflex, about 10% can be expected to develop adenocarcinoma of the lower thoracic esophagus.[6] Achalasia and the Plummer-Vinson syndrome are generally considered predisposing conditions. When patients with caustic damage to the esophagus are observed for an extended period of time, they have been found to have an incidence approximately 1,000 times greater than the normal population.[7] Patients with the rare autosomal dominant hereditary disorder of tylosis have a 70% probability of developing squamous cell carcinoma of the esophagus.[8] Low socio-economic status with its accompanying poor nutrition, as well as consumption of nitrosamines and some home brewed beers have been suggested as potential contributing factors, but there remains little objective evidence of this.[9, 10]

The insidious early course of esophageal cancer often prevents early detection of the tumor and contributes to the low survival rate. The two most common initial symptoms, seen in over 90% of patients, are dysphagia and weight loss. It is generally accepted that these do not occur until the esophageal lumen is narrowed to one-half to one-third its normal size. A recent report from China, however, suggests that 90% of patients actually have intermittent mild early symptoms related to deglutition, which they frequently ignore.[11] Because of the high incidence of carcinoma of

Table 2
Patient Characteristics

Pt.#	*Sex*	*Age & Race*	*Esophageal Segment*	*Clinical Stage/ Surgical Stage*	*Concurrent Disorders*	*Treatment**	*Cause of Death & Diagnosis Method*	*Survival (Months)*
1	F	66W	Upper thoracic	I/III	None	Esophagectomy & 2465 rad	Local recurrence, mets & cachexia-clinically	5
2	M	56W	Lower thoracic	II/N/A	CHF, Liver disease	Esophagectomy	Sepsis & hepatic failure-clinically	Surgical mortality
3	M	56B	Upper thoracic	II/III	None	4500 rad & esophagectomy	Widespread mets-autopsy	11
4	M	57B	Lower thoracic	II/III	None	Esophagectomy & 6000 rad	Rupture of anastomosis with empyema & mets to lungs-autopsy	5
5	M	52B	Lower thoracic	II/III	HTN, chronic, pancreatitis	Colon swing & 1400 rad	Multisystems failure-clinically	1
6	M	83B	Lower thoracic	II/N/A	None	Refused surgery-4500 rad	Widespread mets-clinically	4
7	M	68W	Lower thoracic	II/N/A	CHF, PUD, cachexia	4500 rad	Local recurrence & cachexia-autopsy	5
8	M	56B	Upper thoracic	II/II	None	Esophagectomy & 6500 rad	Local recurrence & M.I.-clinically	7
9	F	64B	Lower thoracic	III/III	HTN, Hx ca breast & larynx > 5 yrs. prior	2000 rad, esophagectomy, then 1500 rad	Widespread mets & sepsis-clinically & biopsy	5
10	M	61B	Lower thoracic	IV-Hep/N/A	Cachexia	2525 rad	Local recurrence, widespread mets, liver failure & cachexia-autopsy	3
11	M	60B	Lower thoracic	IV-Oss/IV-Oss	HTN	3000 rad, esophagectomy, then 3600 rad	Widespread mets-clinically & biopsy	10
12	F	70B	Lower thoracic	III/N/A	HTN, Hx of ca of thyroid > 5 yrs. prior	Surgery refused. 4000 rad & did not wish to continue Rx	Widespread mets-autopsy	4
13	M	82B	Upper thoracic	II/N/A	Hx of ca of larynx & lymphocytic lymphoma > 5 yrs. prior	6000 rad	Widespread lymphoma without evidence of esophageal ca-autopsy	5
14	F	62B	Upper thoracic	IV-Oss,Hep/ IV-Oss,Hep	HTN	Esophagectomy, 5000 rad & RT to mets	Widespread mets-clinically	5
15	F	68B	Cervical	III/III	None	3600 rad, esophagectomy & thyroidectomy	Local recurrence, pneumonia-clinically	5
16	M	51B	Upper thoracic	IV-Pul/N/A	HTN, OHD, COPD, DM	Vindesine[1] × 3 doses	Widespread mets-clinically & biopsy	3
17	M	60W	Upper thoracic	IV-Pul/N/A	Cachexia	6000 rad, Vindesine[1] × 9 doses & Mitomycin[2] & Cisplatin[3] × 3 doses	Widespread mets-clinically	8
18	F	73W	Lower thoracic	IV-Hep/IV-Hep	None	Esophagectomy & 2000 rad to liver	Liver mets with hepatic failure-clinically & biopsy	16
19	F	77B	Upper thoracic	II/N/A	AODM	6000 rad	Widespread mets-biopsy	10
20	M	49B	Upper thoracic	II/III	None	Esophagectomy, 6000 rad & Vindesine[1] × 3 doses	Local recurrence, widespread mets & cachexia-autopsy	22

* Order of treatment on chart reflects order in which treatments were given.

1 Vindesine dose was 3 mg/M^2
2 Mitomycin dose was 20 mg/M^2
3 Cisplatin dose was 3 mg/kg

HEP = Hepar
OSS = Osseous
N/A = Not available
HTN = Hypertension

CHF = Congestive heart failure
PUD = Peptic ulcer disease
OHD = Organic heart disease
M.I. = Myocardial Infarction

Table 5
Survival by Clinical Stage

Clinical Stage	*Range (months)*	*Mean (months)*
Stage I (1 patient)		5.0
Stage II (10 pts.)	1-22	7.1
Stage III (3 pts.)	4-5	4.7
Stage IV (6 pts.)	3-16	7.5

the esophagus in their country, the Chinese have pioneered early detection through screening. Using a balloon catheter, cells are removed from various portions of the esophagus and studied with Papanicolaou technique. Many stage I tumors that are confined to the mucosa have been detected, and the surgical cure rate in this group of patients is 86% at five years.

More commonly, dysphagia is first observed after consumption of coarse solid foods such as meat and vegetables, and then progresses to occur with the consumption of soft and liquid foodstuffs. Once dysphagia is experienced, regurgitation and aspiration may become significant problems for the patient. Odynophagia occurs in about 50% of patients, who experience retrosternal, epigastric, throat or back pain, depending upon the site of the tumor and its extension. Hematemesis, hemoptysis and melena occur in fewer than 10% of cases. Occasionally, with erosion of the tumor into the aorta, a patient experiences exanguination. Horner's syndrome, superior vena caval syndrome and dysphonia can occur with involvement of the sympathetic chain, superior vena cava and recurrent laryngeal nerve, respectively. Pleural effusion, palpable cervical and/or or supraclavicular lymph nodes, bone pain and hepatomegaly are frequent findings in advanced cases. Tracheoesophageal fistula is observed less frequently. On rare occasions, an epigastric mass may be palpated when a distal esophageal tumor has reached large dimensions.

Definitive diagnosis is usually straightforward, beginning with the barium esophagram. This is followed by esophagoscopy with biopsy or, more commonly, cytologic brushings. Brushings have been found to be more likely to produce the correct diagnosis.[12-13] Other diagnostic studies that are helpful include CT scanning of the chest and upper abdomen, liver-spleen, bone and brain nuclear scans. Bronchoscopy is also important to detect early involvement of the trachea or bronchi.

The regional anatomy and lymphatic drainage often lead to early regional and distant dissemination and non-resectability of the tumors. The extensive mucosal and sub-mucosal plexus of lymphatics allows early dissemination. There is no serosa, which allows early spread into the mediastinal tissues. These factors are thought to account for the low cure rates following local and regional therapeutic modalities. The incidence of local carcinoma of the esophagus in one extensive study was 22%.[14]

Treatment for carcinoma of the esophagus is dependent primarily on the stage of disease when the patient is first examined. Early lesions without evidence of dissemination have been treated primarily with surgery. The survival at 5 years in patients treated surgically for cure is approximately 20% to 25%. The overall 5-year survival rate of all patients following resection is on the order of 10% to 15%.[15] Resectability varied from 39% to 83%, depending on the stage of disease. Operative mortality was in the range of 5% to 30%. In cases of non-operability, or non-resectability, patients are frequently treated with radiation therapy. A review of the literature from 1954 through 1979 (8,489 patients from 49 articles) gave a mean survival one year after radiation therapy of 18%; two years, 8%; and five years, 6%.[16]

Table 6
Survival by Treatment Modalities*

Modalities	*Range (months)*	*Mean (months)*
R.T. (6 pts.)	3-10	5.2
R.T. + Surg. (2 pts.)	5-11	8.0
Surg. + R.T. (6 pts.)	1-16	6.5
RT/Surg/RT (2 pts.)	5-10	7.5
Surg/RT/Chemo (1 pt.)		22.0
R.T. + Chemo (1 pt.)		8.0
Chemo (1 pt.)		5.0

* Does not include surgical mortality patient.

Most of the patients in our series died with disseminated metastases, frequently without documented local recurrence. The need for effective systemic agents is apparent. In addition, chemotherapy may result in better local control and improved resectability of tumor if given preoperatively. Kelsen, et al, at Memorial Hospital in New York City have been supportive of this therapeutic regimen.[17] In one of their most recent papers, they report the preoperative use of cisplatin, vindesine and bleomycin in a group of 30 patients. At the time of surgery, nine patients were down-staged by primary size; however, due to the increased detection of lymph node involvement, the overall pathologic staging was frequently increased. Twenty-five of the 30 patients (82%) had resectable tumors. There were two operative deaths, one due to pneumonia and the other due to a pontine hemorrhage. By the time of this report, six of the 25 patients had relapsed following resection. The median follow-up period was 12 months.

Leichman, et al, at Wayne State University have reported their experience with a pilot protocol using 5-FU and cisplatin preoperatively with simultaneous radiation therapy of 3000 rad delivered in 15 treatments.[18] Nineteen patients were operable, in whom 15 tumors were resectable. No cancer was found in five of the specimens. Median survival for all patients was 18 months, with those in the resected group reaching a median survival of 24 months. There were five deaths between 45 and 105 days postoperative, all due to respiratory failure secondary to pneumonia or sepsis.

The effectiveness of single-agent chemotherapy in this disease has been minimal. Selective enhancement of radiation response following cisplatin has been reported. Overgaard and Kahn[19] reported an enhanced response to radiation by a factor of 1.7 in a C3H mammary carcinoma. In a study by Douple and Richmond[20] the enhancement was greater if the administration of cisplatin preceded the radiation rather than being given postradiation. They hypothesized that these effects may be due to radiosensitization of hypoxic tumor cells by the cisplatin. Cisplatin has shown significant activity in several tumors[21-24] In combination with bleomycin, the response rate was 18% (12 of 65) in patients with squamous cell carcinoma of the esophagus.[25]

Summary and Conclusions

In summary, the current treatment results for squamous cell carcinoma of the esophagus are dismal. New methods of management must be found. Early detection is promising, but due to the low incidence of the tumor, particularly in the United States, unlikely to be productive. Because of the high incidence of disseminated disease at the time of the initial examination, there is need for effective systemic therapy. It appears that improvement in overall survival must await that development. More effective local-regional therapy with surgery at the present time seems unlikely. Radical en bloc resection has not made a significant impact on the overall survival rate.[26] New developments in the use of radition therapy, including hypoxic cell sensitizers and heavy particles are being studied in this disease.[27-30] In preliminary trials, these have not been successful in improving the response rate. Hyperthermia in combination with chemotherapy and/or radiation therapy should be tested.[31]

This review of our experience at St. Louis University emphasizes the poor prognosis in this disease. Until better treatment is available, it is important that we not overtreat with local-regional modalities in patients with probable disseminated disease, but that we carefully select those patients with local disease who might benefit from curative therapy. It is our feeling that a national cooperative study is needed to define the role of chemotherapy and radiation therapy in the management of early stage carcinoma of the esophagus.

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An Analysis of the Histologic Evaluation of Lung Cancer

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Three hundred fifty consecutive cases of carcinoma of the lung were reviewed with regard to variations in specific histologic diagnoses rendered by one or more pathologists. A difference of opinion was noted in 25.4% of these cases. Because of these differences in interpretation, the use of multiple diagnostic studies and consultant pathologists is highly recommended.

In an evaluation of 350 consecutive cases of carcinoma of the lung, the role of the consultant pathologists in arriving at the diagnosis of lung cancer was analyzed. This analysis is felt to be relevant in regards to the use of referee pathologists in confirming the initial diagnosis of an institutional pathologist, and shows the potential problems to be encountered in the final analysis of treatment data from clinical trials involving surgery, radiotherapy and chemotherapy.

Materials and Methods

Three hundred and fifty consecutive cases of primary carcinoma of the lung, diagnosed during a 13-month period, at David Grant Medical Center, Travis Air Force Base, California, were reviewed. The initial histologic diagnosis of the institutional pathologist was recorded. Since all cases were sent to the Armed Forces Institute of Pathology (AFIP) for review, that opinion was recorded for comparison with that of the institutional pathology staff. One hundred and eight cases had also been sent to a second referee, usually because the case was entered onto a cooperative cancer group treatment program. The comparison of the tissue diagnoses serve as the basis for this report. Histologic classification was made according to the World Health Organization histologic classification of lung tumors.[1] Bronchoalveolar carcinoma was considered separately because of its unique histologic and clinical characteristics, and those cases for which histologic characteristics were poorly defined were classified as being undifferentiated.

Table 1
Tabulation of Diagnoses

Histology	*No. Cases*	*Percent of Total Cases*
Epidermoid	97	27.70
Two Histologic Types	77	22.00
Adenocarcinoma	57	16.29
Small Cell	47	13.43
Undifferentiated	33	9.43
Large Cell	15	4.29
Three Histologic Types	12	3.43
Bronchoalveolar	12	3.43
Total	350	100%

Table 3
Doubly Listed Histologies
77 Cases

Histologic Types	*No. Cases*	*Percent*
Epidermoid-Adenocarcinoma	17	22.1
Adeno-Bronchoalveolar	15	19.5
Undifferentiated-Small Cell	14	18.2
Epidermoid-Large Cell	10	13.0
Adenocarcinoma-Large Cell	8	10.4
Large Cell-Undifferentiated	5	6.4
Epidermoid-Undifferentiated	4	5.2
Other	4	5.2
Total	77	100%

Table 2
Tabulation by Histology
of Cases With Two Opinions Rendered,
77 Cases

Histology	*No. Cases*	*Percent*
Adenocarcinoma	42	27.3
Epidermoid	31	20.1
Large Cell	25	16.2
Undifferentiated	24	15.6
Small Cell	16	10.4
Bronchoalveolar	16	10.4

Table 4
Doubly Listed Histologies
Institutional vs. First Consultant
77 Cases

	Number of Listings	
Histology	*Local Pathologist*	*Consultant Pathologist*
Epidermoid	16	15
Adenocarcinoma	18	24
Large Cell	16	9
Small Cell	9	7
Bronchoalveolar	8	8
Undifferentiated	10	14
Total	77	77

Results

Epidermoid carcinoma (97 cases) was the most frequent single histologic diagnosis (27.7%) encountered in this series of 350 cases of lung cancer. There were 57 cases (16.3%) of adenocarcinoma, 47 cases (13.4%) of small cell carcinoma, 33 cases (9.4%) undifferentiated carcinoma, 15 cases (4.3%) large cell carcinoma, and 12 cases (3.4%) bronchoalveolar carcinoma (Table 1). In addition, 77 of the cases (22.0%) were given two histologic diagnoses, and 12 (3.4%) had three separate opinions rendered.

Of the 77 cases in which two histologic opinions were rendered (Table 2), adenocarcinoma was the most commonly mentioned diagnosis (27.3%). In decreasing order of frequency were epidermoid carcinoma (20.1%), large cell carcinoma (16.2%), undifferentiated carcinoma (15.6%), and small cell and bronchiolar carcinoma (each with 10.4% of cases).

In that same group of cases, the combination of epidermoid carcinomas and adenocarcinoma was named most frequently, with 17 cases (22.1%) (Table 3). The next most common combination was the minor split between adenocarcinoma and bronchoalveolar carcinoma with 15 cases (19.5%). Following in decreasing order of frequency were the combination of undifferentiated and small cell (14 cases, 18.2%), epidermoid carcinoma and large cell carcinoma (10 cases, 13.0%), adenocarcinoma and large cell carcinoma (8 cases, 10.4%), large cell carcinoma and undifferentiated carcinoma (5 cases, 6.4%), and a miscellaneous group where other combinations were named in single cases (4 cases, 5.2%).

In order to analyze whether there was any tendency for either the institutional pathologist or the consultant pathologists (AFIP) to lean toward or away from any specific histologic diagnosis, the diagnosis given by each was tabulated in this same group of 77 cases (Table 4). No real difference could be detected, although the local pathologists appeared to lean more toward the diagnosis of large cell carcinoma (16 to 9 cases), while the consultants toward adenocarcinoma (24 to 18 cases) and undifferentiated carcinoma (14 to 10 cases). However, in the 17 cases read as both epidermoid carcinoma and adenocarcinoma (Table 3), the local pathologists diagnosed adenocarcinoma nine times, while the consultant pathologist diagnosed adenocarcinoma eight times. In the fifteen cases diagnosed as both adenocarcinoma and bronchoalveolar carcinoma, the local pathologist diagnosed adenocarcinoma eight times, and the consultant made that diagnosis seven times. In the 14 cases diagnosed as both undifferentiated carcinoma and small cell carcinoma, the local pathologist diagnosed undifferentiated carcinoma six times, while the consultant made that diagnosis eight times. In the group of 10 cases with diagnoses of epidermoid carcinoma and large cell carcinoma, the local pathologist diagnosed large cell four times, and the consultant made that diagnosis six times. Relatively greater differences were noted in the remaining smaller groups of patients to account for the diagnostic tendencies listed above.

There were 12 cases in which three separate histologic diagnoses were rendered as a result of a third pathology group review (Table 5). While there was no preponderance in any of the three pathology groups toward any specific grouping of histologic types

Table 5
Cases Listed As Being of
Three Separate Histologic Types
12 Cases

Histologic Types	*No. Cases*	*Percent*
Large, Adeno, Epidermoid	3	25
Small, Large, Undifferentiated	3	25
Epidermoid, Adeno, Bronchoalveolar	2	17
Undifferentiated, Small, Epidermoid	1	8+
Large, Adeno, Undifferentiated	1	8+
Epidermoid, Bronchoalveolar, Large	1	8+
Small, Epidermoid, Adeno	1	8+
Total	12	100

Table 6
Triply Listed Lung Cancer Histologies
Listing According to Pathologists' Diagnoses

	Number of Cases		
Histology	*Institutional Pathologist*	*First Consultant*	*Second Consultant*
Epidermoid	2	2	4
Adenocarcinoma	2	3	2
Large Cell	4	3	1
Small Cell	1	1	3
Bronchoalveolar	1	1	1
Undifferentiated	2	2	1
Total	12	12	12

(Table 6), there were three instances each of the two diagnostic combinations of: Large cell carcinoma — adenocarcinoma — epidermoid carcinoma; and small cell carcinoma — large cell carcinomas — undifferentiated carcinoma. There were two instances where the grouping was epidermoid carcinoma — adenocarcinoma — bronchoalveolar carcinoma. There were four separate instances of other combinations.

When these cases were analyzed for tendencies (Table 6), it was found that there was an almost equal balance of diagnoses given by the institutional pathologist and the first consultant. The second consultant tended to diagnose both epidermoid and small cell carcinoma more frequently, and large cell less frequently than either the local pathologist or the first consultant, but the number of cases is too small to be meaningful.

Discussion

In our analysis of the histologic diagnosis of lung cancer there were a few unexpected findings. While all groups of pathologists rendering their opinions were considered to be highly competent, there was considerable difference of opinion. While we recognized that tissue sections may have variations in thickness, staining and other characteristics, the finding that 89 of the 350 cases (25.4%) had more than one histologic diagnosis was higher than our initial bias would have predicted. It has become clear that allowances need to be made for this phenomenon as inherent in the variation of lung cancer sites diagnosed.

Literature review supports this contention.[2, 3] Hinson, et al, reported up to 24% variations of opinion for adenocarcinoma and large cell carcinoma of the lung when a single pathologist reviewed two different histologic specimens from the same patient.[2] In that series, there was also a discrepancy of 13% for epidermoid carcinoma and 20% for small cell carcinoma. The analysis at a single institution was found to vary by as much as 34.6% in another study.[3] These variations in histologic diagnoses make interpretation of changes in population-based studies difficult to interpret,[4, 5] and will have a significant impact on therapeutic programs based on specific histologic subtypes and in the analysis of multiple primary carcinomas or carcinomas of uncertain origin.[6, 7, 8] Although not used in these studies, electron microscopy and monoclonal antibody histochemical stains may reduce this variation of interpretation.[7]

From these studies, it would appear that there is considerable variation of opinion as to the specific histologic diagnosis of lung cancer. This variation appears to exist both for a given pathologist examining different specimens from the same patient and between groups of pathologists studying specimens either at different institutions or at different times in the same institution. In the current study, we have shown that this variation can exist for all histologic subtypes and that the variation is not due to any overwhelming tendency on the part of any given pathologist to favor one diagnosis over another. Because of these recognized variations, it would seem reasonable to obtain consultation from a second pathology group for confirmation of all newly diagnosed cases of lung cancer, and, when differences of opinion are found to exist, to obtain a third opinion. As newer diagnostic methods become available, they should be incorporated into the routine diagnostic procedures now used in the classification of lung cancer.

Because of the recognized differences in histologic interpretation, the use of multiple diagnostic studies and at least one consultant pathologist is highly recommended to insure uniformity of classification prior to the initiation of non-surgical therapy.

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Book Review

C. Norman Shealy, M.D., Ph.D.
Springfield

"The Social Transformation of American Medicine"

by Paul Starr, New York, New York, Basic Books, 514 pp, $24.95.

The Social Transformation of American Medicine is a powerful book, rich in history and well-documented with relatively little judgemental commentary. It is must reading.

The author, Paul Starr, begins by laying the foundation for his first thesis: "No one group has held so dominant a position in this new world of rationality and power as has the medical profession." He recounts the profession's rise from a profession of relatively minor economic and political significance to a position of "sovereignty" in the late 19th and early 20th century, emerging "as the highest paid occupation in our society" which "receives a radically disproportionate share." This is one of the author's most controversial statements. What about movie and media stars, corporate executives, and professional sports players?

Under the Romans, physicians were of the lowest trade. In 18th century England, physicians stood at the margins of gentry, ranking above surgeons and apothecaries. Even today, in the late 20th century, physicians in other countries are seldom well-paid. In Russia, physicians earn only three-fourths of the average industrial wage. In Great Britain, general practitioners are only moderately well-paid, with a powerful upper class of consultant physicians. Before 1900 most physicians in the United States could barely make a living and many had alternative careers, much like most farmers today.

In pre-industrial America, most individuals lived in a rural environment; medicine had little therapeutic competence and illness was generally handled in the folk domain. As society became more urban and the extended family disintegrated, reliance on outsiders became necessary. This change was greatly enhanced by "genuine advances in science and technology."

Medical education was erratic and not required for those who *chose* to call themselves doctors. Physicians in the 1830s rarely received more than $500 annually, much of that paid "in kind." At that time, only 20% to 35% of physicians had attended medical school. Despite the bleak outlook, by 1850 there was one doctor for every 600 Americans and physicians were complaining about overcrowding. At that time, fees for physicians visits were about 50¢ plus travel costs!

In 1856, five years after its formation, the AMA found that less than 8% of men who went to leading colleges became physicians. As late as 1904 the physician average income was $750, whereas the average income for all occupations was $540 and federal employees were earning an average of just over $1000.

Industrial medicine and surgery were early variations on solo practice. But from the earliest part of this century, the AMA and the courts stood together in preventing corporations from "practicing medicine, even though grudgingly company doctors and not-for-profit hospitals were allowed."

Medical insurance began with such company practices in 1932 and spread to include hospitals. The largest county medical society in Oregon established its own insurance plan to compete with plans being offered by individual hospitals and hospital associations. When its plan failed, the Oregon State Medical Society expelled doctors concerned with profit-making insurance firms. During the 1930s the major basis for funding of medical practice grew from the hospital-sponsored plans; Blue Cross at its inception paid exclusively for hospitalization.

Corporations developed from the 1920s in pharmaceuticals, hospital equipment and related business but not in employing physicians. After the Flexner Report, hospitals and medical schools were largely "non-profit" corporations. Other early principles insisted upon by the AMA were that no one but physicians could make a profit from work done by physicians. Around the turn of this century, medicine became unprofitable while hospital care began to be profitable (but still maintained its "non-profit" status).

As hospitals increased in number, the major symbiotic relationship of physicians to hospitals developed. Hospitals depended upon physicians to fill beds; thus, most hospital authority was given to physicians. The hospitals exploited interns and residents and placed physicians in charge of allied health professionals. Most ancillary health professionals were women who, in those days, did not openly challenge the authority or economic privileges beginning to accrue to physicians.

At that time, the clinical laboratory gave pathologists control of biochemical diagnostics, a powerful financial base. The American Society of Clinical Pathologists started a system of certifying laboratory personnel. Radiology developed similarly. As specialization grew, the dominance of general practitioners waned.

Early in this century, the AMA moved to limit the number of physicians. The medical professional "barred advertising and price competition, lobbied for licensing laws, engaged in price discrimination and fought against prepaid health insurance." Early industrial unions and the Bar Association also fought against any form of medical insurance, especially compulsory insurance.

The criticism of the 1970s ignored a drop in death rates of 14%, a decline in 10 of the top 15 causes of death; a marked drop in the number of deaths from heart disease and a drop in the infant mortality rate.

Lack of competition in medical care by non-physicians, state corporations, etc. allowed physicians to set fees. Physicians established themselves as a sovereign profession with relatively complete control over the practice of medicine. Americans, having seen poor care in public dispensaries and company clinics, were happy to allow this development.

Studies in the early part of this century suggested that the cost of medical care for significant illness often created or aggravated poverty. Thus, some form of medical insurance was essential. Blue Cross initially helped the problem by providing hospital coverage. It also aggravated the financial problem by encouraging hospitalization. Insurance for physicians reimbursement lagged behind hospital insurance coverage for more than 10 years. Physicians in practice, especially in California, were increasingly eager to have some mechanism to cover physicians' fees. From the beginning, they emphasized fee for service and markedly higher fees for surgery. Thus, both Blue Cross and Blue Shield emphasized hospitalization.

After Blue Cross/Blue Shield proved successful, commercial insurance moved in rapidly and took more than half the medical insurance market from Blue Cross/Blue Shield rather quickly. Generally, however, the commercial insurance companies kept the principle of fee-for-service. Unions began to accept and bargain for medical insurance only in the late 1940s. They preferred Blue Cross because it guaranteed full payment for hospital services.

Prepaid group practice, later called HMOs, began with group cooperative and large company insurance prepaying medical insurance plans. From the beginning, many physicians and the AMA opposed these. Physicians often were expelled or denied membership if they worked for an HMO. The great advantage of Kaiser-Permanente and other HMOs is the markedly lower rates of hospitalization.

Starr argues convincingly that the rapid growth of Blue Cross/Blue Shield third party hositalization-type insurance helped push the government intervention (Medicare) which was the final blow in creating economic chaos in medical care. By inhibiting the insurance industry from developing comprehensive health related plans, the seeds were sown for economic abuse and excess. For 30 years this policy greatly enhanced physician income; late results will almost certainly be the opposite.

Medical insurance was, almost from the beginning, highly inflationary. National medical expenditures grew from under 4% of Gross National Product (GNP) to over 11% of GNP, over half that growth under Medicare. "Both liberal and medical opinion supported a broad mandate for professional (physician) authority" during this growth, according to the author.

Partly because of being unable to fund national medical insurance, Congress flooded money into hospitals and medical research without providing for primary care. World War II created opportunities for major scientific advances. During the post-war period, the government poured hundreds of millions of dollars into hospital and medical school expansion, doubling both the number of medical school graduates and the number of hospital beds.

In 1983, medical disease expense nationally was 10.8% of the GNP. Medicare and Medicaid alone were responsible for up to 25% of the $355 billion total. Hosital expenses represent 41% of the total; physician fees take only 19% of the total.

Increasing specialization also aggravated the spiraling costs. The percentage of general practitioners dropped markedly from 75% to less than 30%. Several factors contributed to the rise in specialization including: certification of specialists; financial incentive to hospitals to set up training programs for specialists; government subsidies: high financial rewards of specialty practice; lack of regulation of the number of specialists produced; third party coverage always paid higher fees for the same service if done in hospital; and the fact that surgeons have increased from 10% of total in 1931 to well over 30%.

Medicare led to the proliferation of mental hospitals and mental health centers as well as proprietary nursing homes. Medicare paid no attention to environmental, nutritional or life style effects. Medicare covered less than one-half of the medical expenses of the elderly; Medicaid, less than one-third of those for the poor. Medicare provided the impetus to develop for-profit hospitals and other large medical bureaucracies such as renal dialysis centers.

American medicine suffered a striking loss of confidence in the 1970s. The mandate ran out, largely because of financial excesses. Economic and moral problems displaced science as a major concern. The women's movement challenged the authority and power of the profession. Broader social "entitlements" to social welfare brought stricter regulation. Doubts were widely raised about the value of medical care, liberalism and big government. The word "crisis" was raised within four years of Medicare's enactment!

Medical unemployment is now common in Western Europe and Latin America. One-third of physicians practicing in 1990 will have finished their training in the 1980s.

Fortune magazine in 1970 described American medicine as "on the brink of chaos." It declared medical care in much of the United States inferior, wasteful, inequitably financed, and poorly distributed. A survey revealed three-fourths of Americans agreed.

By 1975, third parties paid 67% of all medical expenses. "Third party fee-for-service payment was the central mechanism of medical inflation" (by emphasizing hospitalization).

The distrust of the 1970s increased malpractice cases and pushed for a variety of patient rights, including the excessive prolonging of a terminal life. This also led to a marked increase in self-health, folk and holistic approaches.

The criticism of the 1970s ignored a drop in death rates of 14%, a decline in

10 of the top 15 causes of death; a marked drop in the number of deaths from heart disease and a drop in the infant mortality rates.

In May 1977, a study showed that HMO subscribers had 349 days hospitalization per 1,000 people per year compared with a national average of 1,149! But less than 10% of Americans are covered by HMOs in 1982.

Starr argues that it now appears that for-profit hospitals and other corporations will dominate medical care. "Unless there is a radical turnabout in economic conditions and American politics, the last decades of the twentieth century are likely to be a time of diminishing resources and autonomy for many physicians, voluntary hospitals and medical schools." Two clouds shadow the future:

1. The rapidly increasing supply of physicians (up from 7,409 new physicians per year in 1965 to 17,000 by 1985).
2. In 1975, there were 377,000 physicians. It is projected there will be 600,000 by 1990 (one physician for each 408 persons). Even if total medical income continues at over 10% of GNP a drop of one-third for the average physician's income is expected.

Medical unemployment is now common in Western Europe and Latin America. One-third of physicians practicing in 1990 will have finished their training in the 1980s. For-profit hospitals dropped from 2,435 in 1928 to 738 in 1972 but their share of the total of more than 7,000 American hospitals has grown 12% in the past decade. Starr gives good statistics to support one prominent thesis: Multihospital systems are not more efficient (they may be less so) and for-profit hospitals increase total hospital costs.

Expanding private insurance and medicine give the financial impetus to for-profit chains. These corporate chains also markedly increase the political power they wield. Not-for-profit hospitals are rapidly diversifying with for-profit subsidiaries including such diverse businesses as restaurants, pharmacies, nursing homes, etc.

No physician can morally or financially afford to be neutral to the decade-long crisis in medical costs. Physicians need to develop a positive consensus and plan what they wish to implement.

Starr predicts "more doctors will be in group practice; more hospitals will be in multi-hospital systems; more insurance companies will be directly involved in providing health care through HMOs." Doctors are moving towards institutional services; hospitals are moving towards ambulatory care; insurance companies are moving toward "preferred providers" and prepayment plans. Some predict that hospital chains will move toward comprehensive medical care and HMO plans. Such ambulatory care programs as obesity control, renal dialysis centers, psychiatric care and respiratory therapy represent conglomerate opportunities.

Corporate intrusion will "entail a profound loss of autonomy" with doctors losing the right to decide age of retirement, control over standards of performance, schedules and routines of work. It will restratify the profession. "Medical austerity will test the limits of professional autonomy." Starr predicts private, corporate regulation will exceed public, government regulation. If you disagree with Starr's 1982 thesis, check *Businessweek's* October 15, 1984 cover article!

No physician can morally or financially afford to be neutral to the decade-long crisis in medical costs. Physicians need to develop a positive consensus and plan what they wish to implement. For starters, it seems crucial to consider some of the problem areas and possible solutions:

1. Medical school enrollment should be cut, preferably 30% to 50%.
2. Since it is inevitable that there will be hospital closings (a minimum of 25% is likely; 50% may be the end result), which hospitals and who will bear the economic brunt? Physicians must consider this.
3. Preventive medicine has become a priority. Numerous studies have argued convincingly that future improvements in health will come from changes in lifestyle. Why don't physicians join the bandwagon and help develop incentives to good health such as decreased medical insurance premiums and rebates for not smoking, weight control etc.?
4. If HMOs, preferred providers and prepaid care are desirable (and inevitable), physicians could be enthusiastic about developing good, comprehensive plans that satisfy physician desires as well as provide improved service. Remember, many innovations and good ideas have been developed by county and state medical societies. Let's get started. ■

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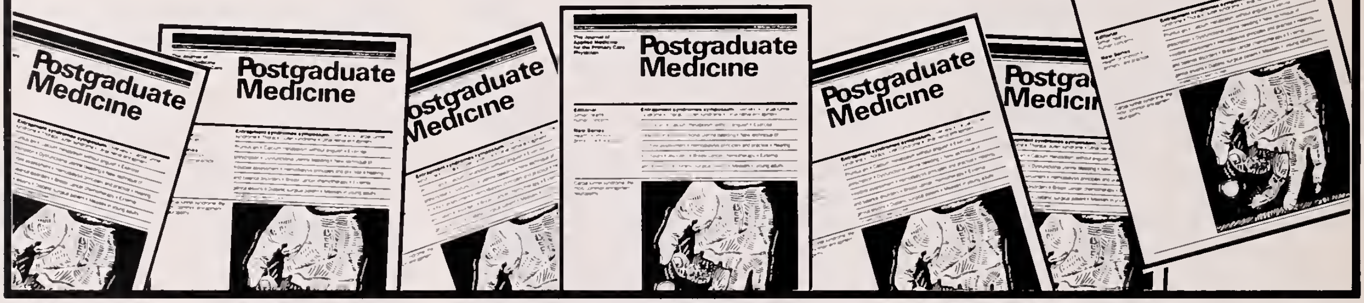

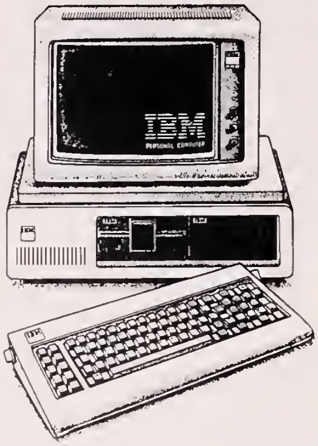

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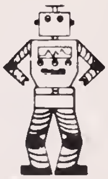

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Medical School News

St. Louis University

■ **Arthur J. Labovitz, M.D.,** assistant professor of medicine, has been elected to fellowship in the American College of Cardiology (ACC). He was elected after the minimum period of time required by the ACC following the completion of his cardiology training program.

Dr. Labovitz's methods of using the echo-Doppler have received acclaim and are the subject of a workbook which will soon be published. They were also the topic of a presentation he gave at the distinguished Heart House Learning Center of the American College of Cardiology in December.

■ **Dennis J. Sullivan, M.D.,** has been appointed medical director of the physical medicine and rehabilitation department at St. Louis University Medical Center. Dr. Sullivan is associate professor of orthopedic surgery and has extensive experience in surgery and rehabilitation.

■ **Karen Webb, M.D.,** M.P.H., has been appointed medical director of HealthLine Corporate Health and Primary Medical Services.

Dr. Webb is board certified in occupational and environmental medicine, as well as internal medicine. In her new position, Dr. Webb will focus her expertise in environmental health on the workplace. She will continue as assistant professor of internal medicine, assistant professor of community health, and division director of environmental and occupational health.

■ **Duane P. Grandgenett, Ph.D.,** professor of molecular virology, has been awarded a $192,000 three-year grant from the National Science Foundation to continue his work in studying the gene coding for the reverse transcriptase enzyme in retroviruses.

By also studying various elements of this virus gene, he hopes to better understand how the movement of genetic information occurs in humans and numerous biological systems.

■ **John F. Kveton, M.D.,** assistant professor of otolaryngology, recently performed the first cochlear implant operation in St. Louis.

Performing delicate microsurgery, Dr. Kveton implanted an electronic device into the inner ear of a 64-year-old woman. Several weeks following the surgery, an external pocket-sized receiver, worn on the body, was connected in order to convert sound into electronical impulses.

A person with this implant cannot understand the spoken word per se, but it gives them clues, such as rhythm and varying volume. They can appreciate a variety of sounds.

The implant is best suited for people who have lost their hearing after they have learned to speak.

The University of Missouri-Columbia

■ Student Research Day was held March 14 at the University of Missouri-Columbia (UMC) School of Medicine. Three awards were given in each of the categories for medical students and graduate students.

Receiving first place in the medical student category was **Alan Fleischer,** an M2 from St. Louis, for "Mediated Dissociation of Albumin-Palmitate Complexes by Hepatocyte Monolayers." He received a $100 award.

The second place award of $50 went to **Sandra Zinn,** an M2 from Columbia, for "Renal Denervation Delays the Onset of Hypertension Produced by Chronic Angiotensin II Infusion in the Rat."

Frank Burns Jr., an M3 from Columbia, received the third place award of $25 for "Uveitis in Melanomatous Swine: Investigation of Humoral Mechanisms in Melanocyte Destruction."

In the graduate student category, **Mary Schrodt-Nahlik** of Columbia, received the first place award of $100 for "Genetic Characterization of Enterobactin Biosynthetic Genes."

The second place award of $50 went to **Matthew Cowlen** of Columbia for "Transbilayer Distribution and Physical Properties of a Fluorescent Sterol in Tumor Cell Plasma Membranes."

William Dale received the third place award of $25 for "Characteristics of a New Cholecystokinin Radioimmunoassay: Effects of Different Tracers."

Nearly 20 students made research presentations at the program. Chair of the organizing committee was **Travis Solomon, M.D., Ph.D.,** associate professor of medicine.

■ **Dr. Bruce E. Harry, M.D.,** assistant professor of psychiatry and adjunct assistant professor of law at UMC, presented two papers at a recent meeting of the American Academy of Forensic Sciences in Las Vegas.

Topics of the papers were "Occurrence of Post-Traumatic Stress Syndrome Among Murderers" and "Technical and Legal Aspects of Forensic Evaluations of Deaf Offenders."

Dr. Harry, a forensic psychiatrist who is director of area studies in psychiatry and law in the department of psychiatry, has given numerous presentations and published a number of articles dealing with deaf offenders, as well as other aspects of forensic psychiatry.

Washington University

■ **Charles B. Anderson, M.D.,** chief of the general surgery division of Washington University's School of Medicine, has been given a $360,000 grant from the National Institutes of Health for research that could improve chances for successful kidney transplants.

Dr. Anderson is researching the possibility that prostaglandins are involved in the rejection of transplanted kidneys. He believes prostaglandins might help to regulate the flow of blood during episodes of organ-rejection.

Dr. Anderson will be assisted in the prostaglandin studies by immunologist **John D. Tyler, Ph.D.,** co-investigator of the project.

■ The St. Charles VFW has donated $5,000 to Washington University School of Medicine in St. Louis to help support research on epidermolysis bullosa (EB), the "thin skin disease."

Members of the post presented the

gift to the medical school's epidermolysis bullosa center as this year's community project. The contribution was made in the name of Jamie Miller, an 8-month-old EB patient whose parents are residents of St. Charles.

■ Philanthropist **Tobias Lewin** has established an endowed professorship to further heart research at Washington University School of Medicine. The first Lewin professor will be internationally renowned cardiologist **Burton E. Sobel, M.D.**

Dr. Sobel, professor of medicine and director of the cardiovascular division at the School of Medicine, is well-known for his research on thrombolytic therapy. In 1984, he published results of a pilot study using an experimental chemical, t-PA, tissue plasminogen activator. In six out of seven patients, t-PA stopped a heart attack in progress by quickly and safely dissolving the blood clot blocking a coronary artery. Subsequently, comparable results were obtained in additional studies of more than 200 patients in collaborative trials involving 15 medical centers.

At the medical school, Sobel is director of a Specialized Center of Research (SCOR) that is investigating the heart's response to ischemic injury and trying to identify new therapeutic approaches for heart disease. The research involves 40 scientists from 12 departments, and has received $9.2 million in renewed funding for the next five years from the National Heart, Lung and Blood Institute.

A faculty member at Washington University since 1973, Sobel is chief of cardiology at Barnes Hospital, a sponsoring institution of the Washington University Medical Center. He received the doctor of medicine degree magna cum laude from Harvard Medical School, held an internship and residencies in medicine at Peter Bent Brigham Hospital, and trained as an assistant in medicine at Harvard Medical School.

■ Elderly volunteers suffering from memory loss are needed for research that may help scientists learn more about normal aging as well as the effects of Alzheimer's Disease on the brain. The on-going study is being conducted by the Memory and Aging Project at Washington University School of Medicine. Currently, the project is recruiting volunteers between the ages of 65 and 84 who have intellectual impairment but are in good general health. All studies will be done at no charge to the volunteers.

Elderly volunteers, their relatives or physicians may call the Memory and Aging Project office at 314-362-2683 for more information.

■ **Philip D. Stahl, Ph.D.,** has been named Edward Mallinckrodt Jr. Professor and head of the department of cell biology and physiology at Washington University School of Medicine. Dr. Stahl has been on the faculty of the School for almost 15 years, most recently as professor of physiology and biophysics.

Dr. Stahl's research has centered on the mechanisms of protein transport and degradation in macrophages. In 1978, Dr. Stahl and his colleagues discovered a new recoptor on macrophages which binds glycoproteins as well as certain microorganisms and transfers them into the cells to lysosomes.

Dr. Stahl received his doctorate in pharmacology from West Virginia University in 1967. He has been on the faculty at Washington University since 1971, when he was hired as an assistant professor, and has been professor of physiology and biophysics since 1982.

In 1980, Stahl was a Senior International Fogarty Fellow of the Sir William Dunn School of Pathology at Oxford University. During this period he and his colleagues at Oxford developed the first macrophage hybridoma, which allowed for the production of these cells and their products in large quantity.

University of Missouri-Kansas City

■ UMKC School of Medicine chalked up another favorable year in the 1985 National Residency Matching Program. Ninety-two percent of UMKC's Class of 1985 matched, with students going to noteworthy institutions across the country. "UMKC School of Medicine has nothing to be gloomy about," said **Dean Harry S. Jonas, M.D.,** "It's one of the best matches we've ever had, and I'm extremely proud of the Class of 1985."

■ UMKC's new Alpha Omega Alpha (AOA) chapter, Delta of Missouri, began with a flourish on March 4 at the Vista International Hotel with a dinner and installation ceremony. Representing the honorary society's Board of Directors was **Claude Organ Jr., M.D.,** professor of Surgery at the University of Oklahoma College of Medicine, Oklahoma City. Dr. Organ, who also is chairman of the American Board of Surgery, spoke at the ceremony and presented the 15 inducted senior students with membership certificates. **Gerald Early, M.D.,** Class of 1973, was named the group's alumnus member, and Dean Harry S. Jonas, M.D., was named faculty member. **Marjorie Sirridge, M.D.,** is the group's secretary/treasurer, and **Richardson K. Noback, M.D.,** is its councilor.

■ **Dean Harry S. Jonas, M.D.,** will assume the post of president-elect of the 25,000-member American College of Obstetricians and Gynecologists (ACOG) at the group's 33rd Annual Clinical Meeting May 13-16 in Washington, D.C. He will assume the group's presidency in May 1986. Dean Jonas has held many positions with the ACOG, including serving as chairman of the Missouri Section and as a member of its national Committee on Professional Liability. He currently is chairman of the group's Health Care Commission, which studies and makes recommendations on issues facing the practice of obstetrics and gynecology.

■ **Mark Repp, M.D.,** a 1980 graduate of UMKC School of Medicine, has begun a position as a member of the Department of Pathology at Truman Medical Center. Dr. Repp completed his internship and residency in pathology at the University of Florida and is now an assistant professor of Pathology at TMC.

■ Graduation activities at UMKC School of Medicine will kick off with a reunion honoring the Classes of 1975 and 1980. The reunion is scheduled in conjunction with a scientific seminar on May 30. **Chris Sirridge, M.D.,** is serving as faculty coordinator, and **Drs. Barbara Allphin** and **Cindy Potter Glass** are serving as alumni coordinators, representing the two honored classes. Although the reunion specifically honors the Classes of 1975 and 1980, all alumni are invited to attend.

Graduation activities will continue with the Carl Migliazzo Memorial Lecture presented by **Robert Glaser, M.D.,** on commencement day, May 31. Commencement will be held in the Music Hall of Kansas City's Municipal Auditorium. Graduation-related activities will conclude June 1, with a seminar on medical education which will include a discussion with the original consultants to then-UMKC Chancellor James Olson, about the planning of the School of Medicine.

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CONTRAINDICATIONS: In patients with known hypersensitivity to the cephalosporin group of antibiotics.

WARNINGS: *Use cephalosporin derivatives with great caution in penicillin-sensitive patients since there is clinical and laboratory evidence of partial cross-allergenicity of the two groups of antibiotics; there are instances of reactions to both drug classes (including anaphylaxis after parenteral use).* In persons who have demonstrated some form of allergy, particularly to drugs, use antibiotics, including cephradine, cautiously and only when absolutely necessary.

Pseudomembranous colitis has been reported with the use of cephalosporins (and other broad spectrum antibiotics); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with antibiotic use. Treatment with broad spectrum antibiotics alters normal flora of the colon and may permit overgrowth of clostridia. Studies indicate a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis. Cholestyramine and colestipol resins have been shown to bind the toxin *in vitro*. Mild cases of colitis may respond to drug discontinuance alone. Manage moderate to severe cases with fluid, electrolyte and protein supplementation as indicated. Oral vancomycin is the treatment of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile* when the colitis is severe or is not relieved by drug discontinuance; consider other causes of colitis.

PRECAUTIONS: General: Follow patients carefully to detect any side effects or unusual manifestations of drug idiosyncrasy. If a hypersensitivity reaction occurs, discontinue the drug and treat the patient with the usual agents, e.g., pressor amines, antihistamines, or corticosteroids. Administer cephradine with caution in the presence of markedly impaired renal function. In patients with known or suspected renal impairment, make careful clinical observation and appropriate laboratory studies prior to and during therapy as cephradine accumulates in the serum and tissues. See package insert for information on treatment of patients with impaired renal function. Prescribe cephradine with caution in individuals with a history of gastrointestinal disease, particularly colitis. Prolonged use of antibiotics may promote the overgrowth of nonsusceptible organisms. Take appropriate measures should superinfection occur during therapy. Indicated surgical procedures should be performed in conjunction with antibiotic therapy.

Information for Patients: Caution diabetic patients that false results may occur with urine glucose tests (see PRECAUTIONS, Drug/Laboratory Test Interactions). Advise the patient to comply with the full course of therapy even if he begins to feel better and to take a missed dose as soon as possible. Tell the patient he may take this medication with food or milk since G.I. upset may be a factor in compliance with the dosage regimen. The patient should report current use of any medicines and should be cautioned not to take other medications unless the physician knows and approves of their use (see PRECAUTIONS, Drug Interactions).

Laboratory Tests: In patients with known or suspected renal impairment, it is advisable to monitor renal function.

Drug Interactions: When administered concurrently, the following drugs may interact with cephalosporins:

Other antibacterial agents — Bacteriostats may interfere with the bactericidal action of cephalosporins in acute infection; other agents, e.g., aminoglycosides, colistin, polymyxins, vancomycin, may increase the possibility of nephrotoxicity.

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Diuretics (potent "loop diuretics," e.g., furosemide and ethacrynic acid) — Enhanced possibility for renal toxicity.

Probenecid — Increased and prolonged blood levels of cephalosporins, resulting in increased risk of nephrotoxicity.

Drug/Laboratory Test Interactions: After treatment with cephradine, a false-positive reaction for glucose in the urine may occur with Benedict's solution, Fehling's solution, or with Clinitest® tablets, but not with enzyme-based tests such as Clinistix® and Tes-Tape®. False-positive Coombs test results may occur in newborns whose mothers received a cephalosporin prior to delivery. Cephalosporins have been reported to cause false-positive reactions in tests for urinary proteins which use sulfosalicylic acid, false elevations of urinary 17-ketosteroid values, and prolonged prothrombin times.

Carcinogenesis, Mutagenesis: Long-term studies in animals have not been performed to evaluate carcinogenic potential or mutagenesis.

Pregnancy Category B: Reproduction studies have been performed in mice and rats at doses up to 4 times the maximum indicated human dose and have revealed no evidence of impaired fertility or harm to the fetus due to cephradine. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

Nursing Mothers: Since cephradine is excreted in breast milk during lactation, exercise caution when administering cephradine to a nursing woman.

Pediatric Use: Adequate information is unavailable on the efficacy of b.i.d. regimens in children under nine months of age.

ADVERSE REACTIONS: Untoward reactions are limited essentially to G.I. disturbances and, on occasion, to hypersensitivity phenomena. The latter are more likely to occur in persons who have previously demonstrated hypersensitivity and those with a history of allergy, asthma, hay fever, or urticaria.

The following adverse reactions have been reported following use of cephradine: G.I. — Symptoms of pseudomembranous colitis can appear during antibiotic therapy; nausea and vomiting have been reported rarely. Skin and Hypersensitivity Reactions — mild urticaria or skin rash, pruritus, joint pains. Hematologic — mild transient eosinophilia, leukopenia and neutropenia. Liver — transient mild rise of SGOT, SGPT, and total bilirubin with no evidence of hepatocellular damage. Renal — transitory rises in BUN have been observed in some patients treated with cephalosporins; their frequency increases in patients over 50 years old. In adults for whom serum creatinine determinations were performed, the rise in BUN was not accompanied by a rise in serum creatinine. Others — dizziness, tightness in the chest, and candidal vaginitis.

DOSAGE: Adults — For respiratory tract infections (other than lobar pneumonia) and skin and skin structure infections: 250 mg q. 6 h or 500 mg q. 12 h. For lobar pneumonia: 500 mg q. 6 h or 1 g q. 12 h. For uncomplicated urinary tract infections: 500 mg q. 12 h; for more serious UTI, including prostatitis, 500 mg q. 6 h or 1 g q. 12 h. Severe or chronic infections may require larger doses (up to 1 g q. 6 h). For dosage recommendations in patients with impaired renal function, consult package insert.

Children over 9 months of age — 25 to 50 mg/kg/day in equally divided doses q. 6 or 12 h. For otitis media due to *H. influenzae*: 75 to 100 mg/kg/day in equally divided doses q. 6 or 12 h but not to exceed 4 g/day. Dosage for children should not exceed dosage recommended for adults. There are no adequate data available on efficacy of b.i.d. regimens in children under 9 months of age.

For full prescribing information, consult package insert.

HOW SUPPLIED: 250 mg and 500 mg capsules in bottles of 24 and 100 and Unimatic® unit-dose packs of 100. 125 mg and 250 mg for oral suspension in bottles of 100 ml and 200 ml.

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May

9-10 **Technological Advances in Respiratory Care** — University of Kansas. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

10-11 **Breast Cancer: Diagnosis and Treatment** — Washington University. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314-362-6893.

10-11 **Cancer Update '85 Spring Symposium: Breast Cancer Update** — Ellis Fischel State Cancer Center. Contact: Janice Gentile, Ellis Fischel State Cancer Center, 115 Business Loop 70 West, Columbia 65201. 314-875-2100.

11 **Schizophrenia: Aiming for Recovery** — St. Louis University School of Medicine. Contact: Anita Herbst, St. Louis University School of Medicine, CME, 1402 S. Grand Blvd., St. Louis 63104. 314-664-9800, ext. 167.

10-12 **Eighth Annual Missouri Cardiovascular Conference** — Tan-Tar-A, Osage Beach. Contact: Weldon Webb, CME Director, UMC School of Medicine, M245 Health Sciences Center, Columbia 65212. 314-882-2256.

13-14 **PNP Update** — Washington University School of Medicine. Contact: Loretta Giacoletto, CME Washington University School of Medicine, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

17 **Kansas Medicine: Ten Years Later** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

17 **Seventh Annual Seminar on Poisoning** — St. Louis University School of Medicine. Contact: Bob Jaeger, Cardinal Glennon Poison Center, 314-772-8300.

18 **Clinical Aspects & Therapeutic Principles of Alzheimer's & Parkinson's Diseases** — Washington University. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314-362-6893.

21-22 **Advanced Cardiac Life Support** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

23-24 **The Child with Chronic Disease** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

30-31 **Advanced Trauma Life Support** — University of Kansas Medical Center. Contact: Jody Scott, Department of Surgery, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-6124.

June

5 **Hepatitis Update** — St. Louis University School of Medicine. Contact: Anita Herbst, St. Louis University school of Medicine, CME, 1402 S. Grand Blvd., St. Louis 63104. 314-664-9800, ext 167.

13 **Quarterly Tumor Board Meeting** — Ellis Fischel State Cancer Center. Contact: Janice Gentile, Ellis Fischel State Cancer Center, 115 Business Loop 70 West, Columbia, MO 65203. 314-875-2100, extension 398.

13-14 **A Special Workshop on the Use of CO_2 Laser in ENT Surgery** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

20 **Review of Orthopaedic Infections** — St. Louis University School of Medicine. Contact: Clayton R. Perry, M.D., Dept. of Orthopaedic Surgery, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis 63104. 314-622-5365.

20-21 **Topic Reviews in General Pediatrics** — Tan-Tar-A Resort, Lake of the Ozarks. Contact: Jen-Yih Chu, M.D., Cardinal Glennon Children's Hospital, St. Louis University School of Medicine, 1465 South Grand Blvd., St. Louis, MO 63104. 314-577-5638.

20-21 **Topic Reviews in General Pediatrics** — St. Louis University School of Medicine and Cardinal Glennon Children's Hospital. Location: Tan-Tar-A, Lake of the Ozarks. Contact: Jin-Yih Chu, M.D., Cardinal Glennon Children's Hospital, 314-577-5638.

July

22-31 **Clinical Allergy** — Germany. Contact: Loretta Giacoletto, Washington University School of Medicine, CME, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

August

23-24 **Sixth Photocoagulation Workshop Using Different Wavelengths** — University of Missouri-Kansas City School of Medicine and Truman Medical Center. Contact: Harry Kuba, 816-556-3595.

Physician's Recognition Awards

Thirty-eight MSMA members qualified for the MSMA-AMA Physician's Recognition Award during February 1985.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

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John Havey, *Columbia*
Gregory J. Renner, *Columbia*

Butler-Wayne-Ripley-Carter

Nazar Chand, *Poplar Bluff*

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Gaudencio L. Agasino, *Sullivan*

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Mid-Missouri

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Leander Lee, *St. Louis*
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Lindbergh S. Sata, *St. Louis*
Earl R. Schultz, *St. Louis*
William B. Webber, *St. Louis*
Joseph J. Williams, *St. Louis*

In Memoriam

- **Jack B. Brams, M.D.,** 5050 Oak St., Kansas City 64112; graduate of the University of Kansas, 1929; member of Jackson County Medical Society; age 82; died March 22, 1985.

- **Earl S. Hallinger, M.D.,** 2209 Kipp Court, St. Louis 63136; graduate of Hahnemann Medical College, 1933; member of St. Louis Metropolitan Medical Society; age 77; died March 13, 1985.

- **Joseph A. Scopelite, M.D.,** 14901 N. Outer 40 Rd., Chesterfield 63017; graduate of St. Louis University, 1926; member of St. Louis Metropolitan Medical Society; age 85; died Feb. 14, 1985.

- **Harry Yoskit, M.D.,** 90-50 Union Turnpike, Ridgewood, NY 11385, graduate of National University, St. Louis, 1916; member of Jefferson County Medical Society; age 96; died March 26, 1985.

New Members

■ **Juli A. Antonow, M.D.,** 3908 S. Grand, St. Louis, 63118, has become a member of the St. Louis Metropolitan Medical Society. Dr. Antonow received her preliminary education at Carleton College and her medical degree at the University of Minnesota in 1975. She completed her residency training at the University of Minnesota Hospitals, Minneapolis. She specializes in pediatrics.

■ **Paul N. Arnold, M.D.,** 1965 S. Fremont, Suite 2000, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Arnold received his preliminary education at Kansas University and his medical degree at Kansas University in 1978. He completed his residency training at the University of Iowa Hospitals, Iowa City. He specializes in ophthalmology.

■ **Stephen Bell, M.D.,** Christian Hospital, 11133 Dunn Rd., St. Louis 63136, has become a member of the St. Louis Metropolitan Medical Society. Dr. Bell received his preliminary education at Columbia College and his medical degree at New York University in 1962. He completed his residency training at the University of Colorado Medical Center, Boulder. He specializes in anesthesiology.

■ **Richard W. Clement, M.D.,** Suite 17424, Barnes Hospital, Barnes Hospital Plaza, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Clement received his preliminary education at Alma College and his medical degree at the University of Virginia in 1979. He completed his residency training at Barnes Hospital, St. Louis, Missouri. He specializes in plastic surgery.

■ **R. Michael Collison, M.D.,** 2619 N. Kansas, Springfield 65803, has become a member of the Greene County Medical Society. Dr. Collison received his preliminary education at St. Louis University and his medical degree at the University of Iowa in 1973. He completed his residency training at Sacred Heart Medical Center, Spokane, Washington. He specializes in family practice.

■ **George J. Corvin, M.D.,** 1443 N. Robberson, Suite 303, Springfield 65802, has become a member of the Greene County Medical Society. Dr. Corvin received his preliminary education at Warsaw Medical Academy and his medical degree at Warsaw Medical Academy in 1962. He completed his residency training at Allegheny General Hospital, Pittsburgh, Pennsylvania. He specializes in anesthesiology.

■ **Felipe L. Cubas, M.D.,** 1040 N. Mason, St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Cubas received his preliminary education at St. Francis College and his medical degree at University of Cartagena in 1974. He completed his residency training at St. Joseph Hospital, Chicago, Illinois. He specializes in emergency medicine.

■ **Gordon D. Daugharty, M.D.,** 14377 Wood Lake Dr. Suite 300, Chesterfield 63017, has become a member of the St. Louis Metropolitan Medical Society. Dr. Daugharty received his preliminary education at Colby College and his medical degree at the University of Michigan in 1961. He completed his residency training at Wayne University Affiliated Hospitals, Detroit, Michigan. He specializes in obstetrics and gynecology.

■ **Todd D. Gammill, M.D.,** 5535 Delmar Blvd., St. Louis, 63112, has become a member of the St. Louis Metropolitan Medical Society. Dr. Gammill received his preliminary education at the University of Central Arkansas and his medical degree at the University of Arkansas in 1979. He completed his residency training at St. Lukes Hospitals, St. Louis. He specializes in internal medicine and cardiology.

■ **Mark W. Hosler, M.D.,** 2505 Allendale, Cape Girardeau 63701, has become a member of the Cape Girardeau County Area Medical Society. Dr. Hosler received his preliminary education at the University of Missouri-Columbia and his medical degree at Washington University in 1973. He completed his residency training at the University of Missouri Medical Center, Columbia. He specializes in anatomical and clinical pathology.

■ **Harlen C. Hunter, D.O.,** 14377 Woodlake Dr., Suite 311, Chesterfield 63017, has become a member of the St. Louis Metropolitan Medical Society. Dr. Hunter received his preliminary education at Drake University and his osteopathic degree at College of Osteopathic Medicine and Surgery-Des Moines in 1967. He completed his residency training at Normandy Osteopathic Hospital, St. Louis. He specializes in orthopedic surgery.

■ **David G. Logston, D.O.,** 1443 N. Robberson, Suite 303, Springfield 65802, has become a member of the Greene County Medical Society. Dr. Logston received his preliminary education at Harding University and his osteopathic degree at University of Health Sciences of Osteopathic Medicine-Kansas City in 1977. He completed his residency training at Naval Regional Medical Center, San Diego, California. He specializes in anesthesiology.

■ **Vinodh Narayanan, M.D.,** 7 Tower Hill-G, Olivette 63132, has become a member of the St. Louis Metropolitan Medical Society. Dr. Narayanan received his preliminary education at Princeton University and his medical degree at Louisiana State University in 1981. He is completing his residency training at Barnes Hospital, St. Louis. He specializes in pediatrics and neurology.

■ **Rollu S. Natt, M.D.,** 2256 Keeven Lane, Florissant 63031, has become a member of the St. Louis Metropolitan Medical Society. Dr. Natt received his preliminary education at Government College Gurdaspur, India, and his medical degree at Aligarh Muslim University, India, in 1972. He completed his residency training at Cook County Hospital, Chicago, Illinois. He specializes in anesthesiology and pediatric anesthesiology.

■ **Allen L. Neese, M.D.,** M245 Department of Child Health, University of Missouri, Health Sciences Center, Columbia 65212, has become a member of the Boone County Medical Society. Dr. Neese received his preliminary education at David Lipscomb College and his medical degree at the University of Vermont in 1977. He completed his residency training at Madison Army Medical Center, Tacoma, Washington. He specializes in pediatrics and clinical pharmacology.

■ **Carl H. Nielsen, M.D.,** Washington University, 660 S. Euclid, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Nielsen received his preliminary education at Fyens Studenter Kursus, Odense, Denmark and his medical degree at the University of Copenhagen, Denmark in 1979. He completed his residency training at Duke University Medical Center, Durham, North Carolina. He specializes in anesthesiology.

■ **Dilip H. Patel, M.D.,** 4590 S. Lindbergh, St. Louis 63126, has become a member of the St. Louis Metropolitan Medical Society. Dr. Patel received his preliminary education at Jai Hind College and his medical degree at the University of Bombay in 1976. He completed his residency training at State University of New York, Stony Brook. He specializes in internal medicine, cardiology and angioplasty.

■ **Larry D. Petersen, M.D.,** 1443 N. Robberson, Suite 303, Springfield 65802, has become a member of the Greene County Medical Society. Dr. Petersen received his preliminary education at Midland Lutheran College and his medical degree at Creighton University in 1981. He completed his residency training at Kansas University Medical Center, Kansas City, Kansas. He specializes in anesthesiology.

■ **Guadalupe Sanchez, M.D.,** Barnes Hospital, Department of Dermatology, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Sanchez received her preliminary education at Berry College and her medical degree at Harvard Medical School in 1978. She is completing her residency training at Washington University and Barnes Hospital, St. Louis. She specializes in dermatology and internal medicine.

■ **Lawrence H. Schoch, M.D.,** 4949 Barnes Hospital Plaza, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Schoch received his preliminary education at the University of Louisville and his medical degree at the University of Louisville in 1976. He completed his residency training at Washington University, Barnes Hospital, St. Louis. He specializes in ophthalmology.

■ **Roger H. Schoenfeld, D.O.,** 1031 McIntosh Circle, Joplin 64801, has become a member of the Jasper County Medical Society. Dr. Schoenfeld received his preliminary education at Westminster College and his osteopathic degree at Kansas City College of Osteopathic Medicine in 1975. He completed his residency training at Madigan Army Medical Center, Ft. Lewis, Washington. He specializes in urology.

■ **Jayendra H. Shah, M.D.,** VA Hospital, 800 Hospital Dr., Columbia 65201, has become a member of the Boone County Medical Society. Dr. Shah received his preliminary education at Jai Hind College and his medical degree at the University of Bombay in 1966. He completed his residency training at Cook County Hospital, Chicago, Illinois. He specializes in endocrinology and metabolism.

■ **Ramesh R. Shah, M.D.,** 2401 Jackson, Joplin 64801, has become a member of the Jasper County Medical Society. Dr. Shah received his preliminary education at Jai Hind College and his medical degree at Grant Medical College in 1966. He completed his residency training at Moorefield's Eye Hospital, London, United Kingdom. He specializes in ophthalmology.

■ **Saroj J. Shah, M.D.,** 501 Rusk Rehabilitation, 1 Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Shah received her preliminary education at M.P. Shah College and her medical degree at M.P. Shah Medical School in 1968. She completed her residency training at VA Hines Medical Center, Hines, Illinois. She specializes in physical medicine and rehabilitation.

■ **Amolak Singh, M.D.,** Nuclear Medicine, 800 Stadium, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Singh received his preliminary education at Punjab University and his medical degree at Medical College, Amritsar, Punjab University in 1972. He completed his residency training at McGill University, Montreal, Canada. He specializes in nuclear medicine.

■ **Stephen J. Tidik, M.D.,** 536 Yeatman, St. Louis 63119, has become a member of the St. Louis Metropolitan Medical Society. Dr. Tidik received his preliminary education at the University of California-San Diego and his medical degree at St. Louis University in 1981. He is completing his residency training at St. Louis University. He specializes in general surgery.

■ **Kelvin D. Van Osdol, M.D.,** 1965 S. Fremont, Suite 2200, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Van Osdol received his preliminary education at the University of Tulsa and his medical degree at the University of Oklahoma in 1978. He completed his residency training at the University of Oklahoma Health Sciences Center, Oklahoma City. He specializes in cardiology.

■ **Mark S. Wasserman, M.D.,** 1552 Woodroyal West Dr., Chesterfield 63017, has become a member of the St. Louis Metropolitan Medical Society. Dr. Wasserman received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1984. He is completing his residency training at the Jewish Hospital, St. Louis. He specializes in obstetrics and gynecology.

■ **James R. Wright, Jr., M.D.,** 530 North Union #508, St. Louis 63108, has become a member of the St. Louis Metropolitan Medical Society. Dr. Wright received his preliminary education at the Ohio State University and his medical degree at the Ohio State University in 1984. He is completing his residency training at the Barnes Hospital, St. Louis. He specializes in anatomical pathology.

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In addition, in view of *The Copyright Revision Act of 1976*, effective Jan. 1, 1978, transmittal letters to the editor should contain the following language: "In consideration of the Missouri State Medical Association's taking action in reviewing and editing my submission, the author(s) undersigned hereby transfers, assigns or otherwise conveys all copyright ownership to the MSMA in the event that such work is published by the MSMA." We regret that transmittal letters not containing the foregoing language signed by all authors of the submission will necessitate delay in review of the manuscript. Please include the title of the article in the transmittal letter.

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Manuscripts should be typewritten, double spaced, and the original with one copy submitted. Retain another copy for proofreading. Please number the pages of your manuscript. Manuscripts are not returned. Hospital and University appointments of the author(s) should accompany the manuscript. A synopsis-abstract of no more than 75 words should accompany the manuscript.

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References should be cited in numerical order in the text and arranged at the end of the article in the same order in which they are cited. The reference should give name of author, title of article, name of periodical, volume number, initial page number and year. Authors are responsible for reference accuracy.

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Editorials should be written in clear, concise language. Length should be about two or three pages typed with double spacing.

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Letters will be published at the discretion of the editor, managing editor, and Editorial Board.

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Dallas/Fort Worth Needs Physicians — Fulltime physician positions for general practice/internal medicine clinics. Partnership available in one year. Excellent opportunity. Write or call: S. K. Kechejian, M.D., 609 S. Main St., Duncanville, TX 75116. 214-780-0093.

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Fulltime Position — in established Occupational Medical clinic in Kansas City area. Clinic well-staffed and equipped. Salary and fringe benefits competitive. Physician with family practice, surgical or emergency room background and some Occupational Medical experience sought. Kansas City, MO 64132. 816-231-3600.

Internal Medicine — The rapid growth of the Medical Care Group of St. Louis (MCG) has generated open positions for Board certified or qualified internists. MCG is a not-for-profit prepaid group practice closely affiliated with the Washington University Medical Center in St. Louis. It has been operational since 1969 and now provides comprehensive health care for over 42,000 enrollees. MCG delivers ambulatory care in five health centers, including the medical school campus and four areas in St. Louis County. All consulting services are through Washington University faculty, inpatient care is in the Washington University Medical Center hospitals. MCG offers competitive salary and comprehensive benefits including liberal vacation and educational leave, life, medical and disability insurance, malpractice coverage and a retirement program. If you are interested in a professionally stimulating practice in association with a major medical center, please contact Dr. Lawrence Kahn, Medical Director, The Medical Care Group, 4570 Audubon Ave., St. Louis, MO 63110, or call 314-658-5212.

Music Man

Wilfred E. Wooldridge, M.D.

It's not an uncommon mix — music and medicine. Throughout the ages, physicians have been loyal supporters of the fine arts, particularly music. Wilfred E. Wooldridge, a gifted vocalist and composer, is no exception.

"The practice of medicine requires — as appreciation of genuine music does — not only a certain level of intelligence, but also a great deal of sensitivity," the Springfield dermatologist says. "A good physician must be sensitive, but the weight of the problems he must face every day can become overwhelming. There must be something else. He or she is forced to shift gears, think about something else besides his patients." And for Dr. Wooldridge that something else is music.

"Music and medicine are both so much a part of me, something I've grown up with. It takes just a moment for my mind to stop thinking of one and start thinking of the other," Dr. Wooldridge explains. "To me, music and medicine are completely interchangable, but not at all interrelated."

Indeed, at times it is difficult to discern whether Dr. Wooldridge is a physician who composes music or a composer who practices medicine: He does each with extraordinary talent and dedication.

In the beginning, the decision to make medicine, not music, his choice of profession was not an easy one. Two weeks before he began medical school at Washington University, Dr. Wooldridge was still studying voice in New York City. However, once the decision toward medicine was made, Dr. Wooldridge never wavered. Medicine was his career, but music was never far behind.

Although while in medical school his music came to a halt, Dr. Wooldridge resumed it as quickly as he could. While stationed aboard an Army hospital ship in the Pacific during World War II, Dr. Wooldridge began his musical studies once again — by taking a correspondence course in music theory from Drury College in Springfield.

After military service and three more years residency at the Barnes Hospital Group in St. Louis, during which music again took a back seat, Dr. Wooldridge returned to his native Springfield to begin his practice in medicine. There, his practice flourished and his music become widely-recognized.

"Music is always in the back of my mind," Dr. Wooldridge explains. "Sometimes as I work at the office, a passage I have had trouble with will jell. I must quickly write it down before I lose it."

And he has been "writing it down" for more than 50 years. Dr. Wooldridge, former editor of MISSOURI MEDICINE, has composed nearly three dozen concert songs and four dozen choral pieces, both religious and secular. He says he has not had courage enough to venture into instrumental music.

In addition to writing music, Dr. Wooldridge also has been a recognized vocalist, having soloed with three symphonies. Moreover, for 25 years, Dr. Wooldridge presented his own concerts at one of the area colleges in Springfield.

Dr. Wooldridge's compositions have been heard in churches of several denominations and have been sung throughout the United States. He has written special masses and anthems for Thanksgiving, Christmas and other special occasions. At times, he may write 10 or 12 measures of a piece in 15 minutes; other times, he struggles for almost a month to find the right notes to fit a problem passage. However long it takes, it seems the results remain the same: melodious compositions, rich in sound and appreciated by all those who hear. ■

Story and photo by Laurel Ellison

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References: **1.** Kales J *et al*: *Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. **2.** Kales A *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A *et al*: *Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A *et al*: *Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **6.** Kales A, Kales JD: *J Clin Pharmacol 3*:140-150, Apr 1983. **7.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977. **8.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **9.** Amrein R *et al*: *Drugs Exp Clin Res* 9(1):85-99, 1983. **10.** Monti JM: *Methods Find Exp Clin Pharmacol 3*:303-326, May 1981. **11.** Greenblatt DJ *et al*: *Sleep 5*(Suppl 1):S18-S27, 1982. **12.** Kales A *et al*: *Pharmacology 26*:121-137, 1983.

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Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

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15-MG/30-MG CAPSULES

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Missouri Medicine

Journal of the Missouri State Medical Association

June 1985

V. 82 no. 6

"Race Day"

John Wm. Fries, M.D.

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CARDIZEM®
(diltiazem HCl)
balances potent coronary vasodilation with a low incidence of side effects

Low incidence of side effects
CARDIZEM® (diltiazem HCl) produces an incidence of adverse reactions not greater than that reported with placebo therapy, thus contributing to the patient's sense of well-being.

Reduces angina attack frequency*
42% to 46% decrease reported in multicenter study.[1]

Increases exercise tolerance*
In Bruce exercise test,[2] control patients averaged 8.0 minutes to onset of pain; Cardizem patients averaged 9.8 minutes ($P<.005$).

CARDIZEM®
(diltiazem HCl)

THE BALANCED CALCIUM CHANNEL BLOCKER

Please see full prescribing information on following page.

2/84

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*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

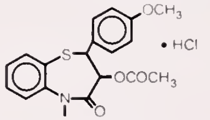
References:
1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

PROFESSIONAL USE INFORMATION

cardizem®
(diltiazem HCl)
30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+)-cis-. The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia, and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
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Vol. 82, No. 5 *Journal of the Missouri State Medical Association* June 1985

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Missouri Medicine (ISSN 0026-6620) is published monthly by the Missouri State Medical Association, P.O. Box 1028, 113 Madison St., Jefferson City, MO 65102.

Subscription rates: $15 per year. Interns and Residents, $7.50 per year.

Second class postage paid at Jefferson City, Missouri and at additional mailing offices.

Postmaster: Send address changes to Missouri State Medical Association, c/o Membership Department, P.O. Box 1028, Jefferson City, MO 65102.

The articles published in *Missouri Medicine* represent the opinions of the authors, and do not necessarily reflect the official policy of the Missouri State Medical Association.

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Publication number 355380.

Cover

"Race Day," *John William Fries, M.D.* This beautiful watercolor was exhibited last year by the National Water Color Society. Dr. Fries is chief radiologist at St. Anthony's Medical Center, St. Louis, and associate clinical professor of radiology at St. Louis University School of Medicine.

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MSMA Progress Notes

Medical legislation moves more quickly as Session nears end

Several pieces of proposed legislation which could affect your medical practice are progressing through the Missouri legislature at this time. As the General Assembly begins the final stretch of the 1985 Session (adjournment is June 15), bills are moving more quickly through the House and Senate.

At press time, the following actions had already been taken:

House Actions

The House gave final passage to HB 357 which would make proceedings and findings of medical peer review committees nondiscoverable in judicial actions. The bill, supported by the MSMA, was recently heard by the Senate Public Health Committee.

The House has also passed HB 240 which states that a physician, among others, can petition the court to provide care for a child with a life-threatening condition if that child's guardian refuses to do so. It also directs the court to expedite such petitions.

The House has also passed HB 456 which would require individuals and facilities furnishing health care services to provide patients, upon request, with an itemized bill.

Senate Bill 25, which would create a separate Department of Health in Missouri, passed the Senate and was voted Do Pass by the House Public Health Committee.

The House passed and sent to the Senate HB 248 which states that any person deprived of proper "nutrition" is a victim of abuse. This language coincides with the federal "Baby Doe" statutes. MSMA amended the bill and is now monitoring it. The MSMA also amended HB 52 which recently passed the House. This bill would require a medical provider to furnish patients with a copy of their medical records upon written request. MSMA is now monitoring the bill.

House Bill 59 which would extend the "Good Samaritan" statutes to anyone acting up to the level of their training received first round approval by the House as was HB 295 which creates an environmental radiation monitoring program in Missouri.

Senate Actions

At press time, SB 126 was expected to be debated on the Senate floor in the next few days. The bill, which is supported by MSMA, calls for a $350,000 cap on non-economic losses and mandates structured awards rather than lump sum settlements in judgments of more than $50,000.

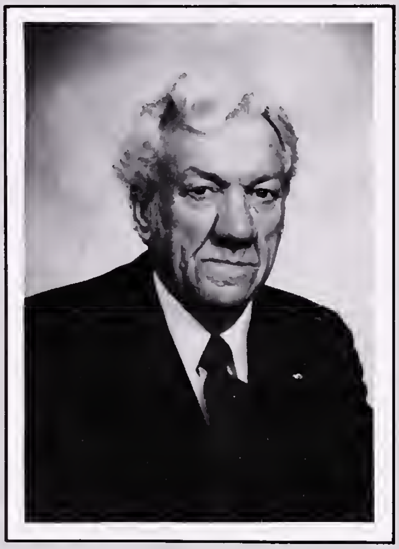
The Senate passed SB 37 which would license professional counselors, and also passed SB 374 which would require insurers to report all malpractice claims against attorneys. In addition, the Senate passed SB 54 requiring the reporting of gunshot wounds, along with SB 51, the Living Will bill and SB 90 which would require the state to make Medicaid payments within 45 days or pay interest to the provider. The bill was amended from its original 30-day limit provision. ■

Medical students receive awards

One student from each of Missouri's four medical schools has been presented with the Missouri State Medical Association Honors Award for 1985. The award, along with a $100 check, goes to students who have shown superior performance in both clinical rotations and standardized examinations.

This year's recipients are: Glenn I. Hananouchi, St. Louis University; Alan Daniel Kritz, Washington University; Alan C. Braverman, University of Missouri-Kansas City; and David Bliss, University of Missouri-Columbia. ■

Jack Wiles, M.D., MSMA Councilor, dies at age 64



Jack N. Wiles, M.D., MSMA Councilor from the Ninth District, died April 29, 1985, at the age of 64.

Dr. Wiles, West Plains, was a Fellow of the American Academy of Family Practitioners and served on the Board of the Missouri Academy of Family Practice for the Ninth District. He served as an MSMA Councilor since 1980.

Dr. Wiles received his preliminary education from Southwest Missouri State University and the University of

(Continued on page 290)

MMPAC Sustaining Members

The Missouri Medical Political Action Committee (MMPAC) is a voluntary committee of Missouri physicians and spouses who contribute funds to aid in the election of Missouri candidates to the state legislature and U.S. Congress. The committee financially supports those candidates whose philosophy is similar to that of the medical profession. Listed below are MSMA and Auxiliary members who have paid $100 to become sustaining members of MMPAC. If you wish to join the ranks of these concerned physicians, write MMPAC, P.O. Box 1402, Jefferson City, MO 65102.

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Wiles *(Continued from page 287)*

Missouri-Columbia. He received his medical degree from Washington University School of Medicine.

He was a member of the Board of Directors of the West Plains Bank, a past president of the West Plains Rotary Club, a Paul Harris Fellow of Rotary International, and a member of several Masonic bodies including the Blue Lodge and the Shrine. He was active in community affairs and held memberships in many clubs and service organizations. ■

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Mary Kay McPhee to be installed as president of AMA Auxiliary

Mary Kay McPhee (Mrs. William R.), Kansas City, will be installed as the president of the American Medical Association Auxiliary on Wed., June 19, 1985, at the Drake Hotel in Chicago, in conjunction with the AMA Annual Meeting.

All Missouri State Medical Association and Auxiliary members are invited to attend this special occasion. Mrs. McPhee will be the first Missouri Auxiliary member to serve as AMA Auxiliary president in more than three decades. ■

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Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: **Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired.** If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of Dyrenium (triamterene, SK&F CO.) and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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Cardiovascular contraindications to the use of Isoptin are similar to those of beta blockers: severe left ventricular dysfunction, hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no artificial pacemaker is present) and second- or third-degree AV block.

So, the next time a nitrate is not enough, add Isoptin... for more comprehensive antianginal protection without side effects which may cramp an active life style.

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Contraindications: Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure < 90 mm Hg) or cardiogenic shock, sick sinus syndrome (except in patients with a functioning artificial ventricular pacemaker), 2nd- or 3rd-degree AV block **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g , ejection fraction < 30% or moderate to severe symptoms of cardiac failure) and in patients with any degree of ventricular dysfunction if they are receiving a beta blocker (See *Precautions.*) Patients with milder ventricular dysfunction should, if possible, be controlled with optimum doses of digitalis and/or diuretics before ISOPTIN is used (Note interactions with digoxin under *Precautions*) ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild and controlled by decrease in ISOPTIN dose). Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported Such elevations may disappear even with continued treatment, however, four cases of hepatocellular injury by verapamil have been proven by rechallenge. Periodic monitoring of liver function is prudent during verapamil therapy Patients with atrial flutter or fibrillation and an accessory AV pathway (e.g W-P-W or L-G-L syndromes) may develop increased antegrade conduction across the aberrant pathway bypassing the AV node, producing a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion, which has been used safely and effectively after ISOPTIN Because of verapamil's effect on AV conduction and the SA node, 1° AV block and transient bradycardia may occur. High grade block, however, has been infrequently observed Marked 1° or progressive 2° or 3° AV block requires a dosage reduction or, rarely, discontinuation and institution of appropriate therapy depending upon the clinical situation. Patients with hypertrophic cardiomyopathy (IHSS) received verapamil in doses up to 720 mg/day It must be appreciated that this group of patients had a serious disease with a high mortality rate and that most were refractory or intolerant to propranolol. A variety of serious adverse effects were seen in this group of patients including sinus bradycardia, 2° AV block, sinus arrest, pulmonary edema and/or severe hypotension. Most adverse effects responded well to dose reduction and only rarely was verapamil discontinued. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacologic effects. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, close surveillance of vital signs and clinical status should be carried out Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity The digoxin dose should be reduced when ISOPTIN is given, and the patients should be carefully monitored to avoid over- or under-digitalization. ISOPTIN may have an additive effect on lowering blood pressure in patients receiving oral antihypertensive agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Clinical experience with the concomitant use of ISOPTIN and short- and long-acting nitrates suggest beneficial interaction without undesirable drug interactions. Adequate animal carcinogenicity studies have not been performed One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C:* There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block 3rd degree (0 8%), bradycardia: HR < 50/min (1 1%), CHF or pulmonary edema (0 9%), dizziness (3.6%), headache (1 8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%), elevations of liver enzymes have been reported (See *Warnings*.) The following reactions, reported in less than 0 5%, occurred under circumstances where a causal relationship is not certain. ecchymosis, bruising, gynecomastia, psychotic symptoms, confusion, paresthesia, insomnia, somnolence, equilibrium disorder, blurred vision, syncope, muscle cramp, shakiness, claudication, hair loss, macules, spotty menstruation. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in round, scored, film-coated tablets containing either 80 mg or 120 mg of verapamil hydrochloride and embossed with "ISOPTIN 80" or "ISOPTIN 120" on one side and with "KNOLL" on the reverse side. Revised August, 1984 2385

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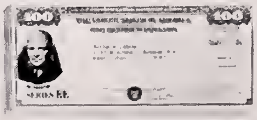

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

Neither the emotional nor the scientific viewpoint of illness is wrong except when one excludes the other.

Appearances can deceive in medicine

Let's face it — the way the public perceives disease and medicine differs from the viewpoint of the average physician. To a doctor, sicknesses and injuries are primarily scientific problems to be dealt with in a scientific way. The public's conception of illness, however, is often so overladen with subjective feelings that the physician has a difficult time even communicating with the patient and relatives about the problems at hand.

We see attitudes of lay people which are, at times, hard to comprehend. The fact that 30,000 people a year die in automobile accidents is commonly accepted as a way of life. The theoretical possibility that somewhere, at some time, somebody might meet his Maker earlier than expected because of a too close brush with dioxin has the media and public screaming for action. A heart attack coming on while a patient is jogging almost brings a smile to the face of the victim — he is doing the "right thing" when it happened. Don't be upset about brain damage from boxing — fisticuffs are macho. Don't fluoridate the water to save Junior's teeth — that's government control and we all know what that means.

Show a jury an easily visible physical impairment that is the result of a medical problem, and all reason is out the window. If a child is brought into a court room on crutches, or even has a limp after a medical experience with less than perfect results, the award dollars surely will flow. Lay midwives, with no organized medical training, have all the emotional appeal of unfettered motherhood on their side. The cold medical facts from seemingly uncaring doctors concerning increased childbirth risk tends to fall on deaf ears.

Physicians have to practice medicine in a mental milieu removed from emotional considerations — one reason why they don't treat themselves or family. From this standpoint, however, it is difficult to fully appreciate the public's emotional concern with illness. Fear, uncertainty, frustration, anger — these are what being sick is all about to the average patient. This is a far cry from scientific reason leading to precise diagnosis and best treatment modalities which constitute the physicians' approach to medical problems. No wonder the doctor of 50 years ago was so loved for his well thought of, but probably not clinically effective, house calls. By those home visits he was showing concern — fulfilling the emotional needs of the patients and relatives.

Neither the emotional nor the scientific viewpoint of illness is wrong except when one excludes the other. We abhor the patient who has no feeling for illness in his family, and we likewise look down on the physician who emotes greatly with his clientele, but frankly does know his medicine academically. The ability to exhibit at least some emotion is necessary in order to be a physician in the fullest sense. The public needs continuing education concerning diseases

(Continued on page 295)

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PRESIDENT'S PAGE

by Walter A. German, M.D.

The work of the MSMA lobby is largely responsible for the fact that only one or two bills detrimental to medicine have passed our legislature in recent years.

MSMA can benefit you & your practice

It seems obvious from reading the paper and listening to legislators that some control of the health care field is now being shifted from the national level to the state level. I feel that this trend will definitely continue and we shall see the state legislature control more and more who practices medicine, how they practice, and how much they charge for various procedures. You can see immediately how important it is that medicine have a strong voice in deciding these controls. Make no mistake about it, the Missouri State Medical Association is the voice of the practicing physicians in the state of Missouri. Hospital staffs, local medical societies, specialty groups all have some force, but it is the state medical association to which the public, newspapers, television, and legislators listen and turn to for medical information.

At this time, there are some 1,500 physicians in our state who do not belong to the Missouri State Medical Association. This fact definitely dilutes our force when talking with state legislators, particularly those from the two larger cities. "If you are representing the physicians in Missouri, why are so many St. Louis and Kansas City doctors not members?" This is the statement now being heard in legislative corridors, particularly by those legislators representing the metropolitan aras. This type of statement and reaction must be destroyed before it moves any further. More clout must be given to the State Association. This is the time for non-members to put aside petty problems and join their colleagues in the Missouri State Medical Association. Added membership will help our state association to shape our future destiny and the future methods of practice by physicians in Missouri.

The two most common questions asked by non-members are: (1) What does MSMA do for me personally in repayment of my dues? and (2) Does the organization really get anything accomplished at the state level?

Let me give you some answers to both of these questions. There are more than 21 active programs in the Missouri State Medical Association including lobbying efforts, the Impaired Physician program, practice management seminars, insurance programs and much more. All of these programs are in place for the benefit and betterment of the individual practicing doctor. These programs alone are worth the small amount of dues, but let me continue to give you other reasons.

Although you and I are not particularly in favor of the PRO, this is government policy and so they exist. In only nine states is the PRO supervised by the state medical association, as is true in Missouri. And only Missouri has a practicing doctor as the PRO executive director. These facts do not just happen. They are the result of much hard work by Missouri physicians and staff in the state medical organization and the beneficiary of this fact is you, the individual

(Continued on page 295)

Doctor-Lawyer?

Today's physician may suffer from occupational confusion. Certainly, with malpractice suits so frequent, and dare we say "popular", it's no wonder that physicians today find themselves half doctor-half lawyer.

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Ceremonies will begin at 10 a.m.

All Missouri State Medical Association members are invited to attend this special event.

R.S.V.P.

Janet Campbell
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Sedalia, MO 65301
816-862-2111

Editor's Desk *(Continued from page 291)*

and the roles physicians and hospitals best play in best managing them. The media need to do a more balanced job of conveying medical information. If medical care is going to account for 14% of our Gross National Product as predicted, countless important decisions will need to be made in the future concerning the distribution of health care. These decisions will need to be made on a scientific basis, but with a generous sprinkling of care. ■

President's Page

(Continued from page 293)

doctor. The State Association is protecting you and your practice.

State legislators turn to MSMA for advice and help many times during the legislative session. During the last session of our state legislature, MSMA actively backed four malpractice bills and a bill to protect peer review confidentiality. Without the strong stance taken by MSMA, none of these bills would have had any chance of passage.

This same fact holds true in prevention of licensing every technician group in the health care field. The work of the MSMA lobby together with the physicians on the legislative committee, Key Contact program, and the Auxiliary Key Contact program are in a large part responsible for the fact that only one or two bills detrimental to medicine have passed our legislature in recent years. Think what could happen to your practice without this organization constantly monitoring bills being heard in the Missouri Legislature.

I feel, without a doubt, that these reasons should fully answer the two questions previously raised. If you are now a member of MSMA, you should feel proud in your support because you are helping to shape the future of medicine in Missouri. If you are not a member of MSMA, now is the time to join the ranks and do your part, show your support, and aid the state association in working on your behalf. We need your presence now; not next year or the year after. Now is the time for all good physicians to come to the aid of their association. ■

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Special Article

Quality Assurance Under the Missouri PRO Program

Mohammad N. Akhter, M.D.

Dr. Akhter is executive vice president and medical director of the Missouri Patient Care Review Foundation.

In 1982 the Missouri State Medical Association and the Missouri Association of Osteopathic Physicians and Surgeons began forming an organization to satisfy the Health Care Financing Administration's (HCFA) requirement for a statewide peer review organization. The resulting Missouri Patient Care Review Foundation (MPCRF) was incorporated in February of 1983.

On Aug. 1, 1984, the Missouri Patient Care Review Foundation was designated by HCFA as the Peer Review Organization for the State of Missouri and was awarded a contract to carry out review activities. The main areas of the Foundation's activities include the following:

1. Review of reasonableness, necessity, and appropriateness of in-hospital admission of Medicare patients.
2. Validation of diagnosis and procedural information that determine Medicare reimbursement (DRG).
3. Review of the necessity and appropriateness of the care for which payment is sought on an outlier basis.
4. Review of completeness, adequacy, and quality of care provided.

The purpose of a patient care review quality assurance program is to assess and monitor health services to assure that these services meet community standards. In general, there are three approaches for the assessment of quality of health care services: structural, process, and outcome.

Structural assessment refers to the assessment of personnel, materials and equipment used in the delivery of services. It also looks at the number and qualifications of staff, the organizational structure, and availability and accessibility of other services in a facility. The structural assessment is generally done by the licensing or accreditation authorities (e.g., state licensing by the Division of Health, Joint Commission on Accreditation of Hospitals, and other national organizations).

Process assessment refers to the evaluation of the appropriateness and adequacy of the services provided and is frequently carried out through a review of individual patients' medical records to assess the way in which care was delivered during the patient's stay in the hospital.

Outcome assessment, on the other hand, refers to the monitoring of the change in the health status of the patient which resulted from the provision of care. This is also generally done by the review of medical records. This type of assessment focuses on the desired end result of the clinical activity, i.e., the maintenance or improvement in the health of the patient.

The MPCRF's quality assurance program combines the process assessment and the outcome assessment while performing quality assurance reviews for Medicare patients. To perform the assessment of the quality of care delivered to Medicare patients, we have established criteria and performance standards which are used to review

> "We recognize that with poor documentation and with merely reviewing the chart without seeing the patient, one cannot be absolutely certain of the quality of care."

medical records. The information is then referred back to the physicians and the hospitals to assure that appropriate changes are made to correct any deficiencies identified during the review process.

Criteria Development

The MPCRF's Quality Assurance/Criteria Committee is headed by Dr. Thomas Frawley of St. John's Mercy Medical Center, St. Louis. The Committee consists of 11 physicians from different specialties who practice medicine in different locations in the state. The criteria are first prepared by the staff of the Foundation from the available medical literature and are then presented to the appropriate specialty society of the Missouri State Medical Association or to a number of our consultant physicians. With their input, the criteria are refined by the staff and are then submitted to the Foundation's Quality Assurance/Criteria Committee. Generally, prior to the committee meeting, members of the committee obtain input from their colleagues in private practice about the criteria. The committee then meets and refines the criteria to be used by review coordinators. These are then approved by the Board of the Missouri Patient Care Review Foundation prior to implementation.

Quality Review Process

Each of the charts selected on a random basis is reviewed by a review coordinator (a medical records technician or a nurse) for the appropriateness of admissions, correctness of coding, and for quality of care. If when utilizing the 15 elements listed in Table 1, the review coordinator identifies a deficiency in a particular chart, he/she then refers that chart to a physician consultant. The physician consultant then reviews that chart. If the physician consultant feels the area identified does not meet the established community standards, he/she will notify the area medical directors of the deficiencies.

The medical director, on receiving this information, then prepares a letter to communicate with the attending physician. We recognize that with poor documentation and with merely reviewing the chart without seeing the patient, one cannot be absolutely certain of the quality of care. Therefore, when our medical director comes across a quality of care issue that does not meet community standards, he writes a letter to the attending physician informing him/her of the specific problem identified by the review of records and invites the physician to discuss the problem.

If a similar situation takes place with the same physician again, a copy of the second letter is sent to the physician's chief of medical staff, along with a request for a personal meeting. If the physician continues to practice medicine that is not within established community standards, our local medical directors then refer that case to the Foundation for its consideration.

If there is a persistent problem, the Executive Vice President and Medical Director of the Foundation sends a letter to the attending physician informing him of the problem and requesting a meeting with him and the hospital chief of staff to clarify and resolve the issue. If the physician continues to practice poor quality medicine, the issue is turned over to the MPCRF Board which has a number of options, including recommending to HCFA some type of sanction against the physician.

During the past six months, we have sent several letters to physicians. Most of them have been informational letters asking them to upgrade the quality of care they deliver to their patients in some specific areas. We have received considerable cooperation from Missouri hospitals and physicians. We believe Missouri physicians are interested in providing the best quality of care available to their patients.

Collection of Data

Data are collected on the 15 items listed in Table 1 and analysis is then done by hospital, by physician, and by specific diagnoses. If there is a particular hospital where some of the physicians are having problems, we contact the hospital and ask them to prepare a plan of correction to be implemented to correct those particular quality problems. If the problem is with a particular physician, we go through the educational process with that physician. If the problem is with a particular diagnosis, the hospital and the physician are both notified of the situation and are asked to work with us to develop a plan for improvement in the quality of care for patients.

Discussion

Assessment of quality of care is difficult, especially when there are only medical records to review. Poor documentation creates additional problems. The Missouri Patient Care Review Foundation believes that quality assessment can only be done by physicians who have access to appropriate medical records and who then can communicate with attending physicians. Ample opportunity is provided for this type of communication prior to the hospital becoming involved in the process. Generally, quality issues are resolved between physicians, but at times, hospital leadership needs to know about the quality problem and must be involved to come to a resolution of the problem. Quality assessment is done strictly by physicians who practice in the same community and usually in the same specialty.

Table 1

Quality Screening Criteria

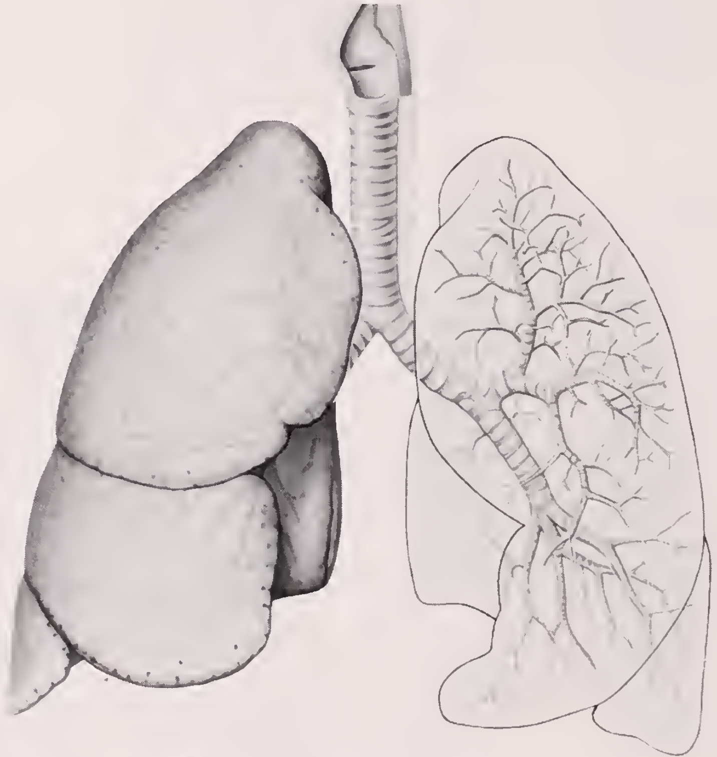
1. Admission for complication of or recurrence of problem of previous hospitalization
2. Readmission for progress of illness due to possible incomplete treatment
3. Inappropriate antibiotic usage
4. Hospital-incurred incidents
5. Infection not present on admission (nosocomial)
6. Surgery without documented medical necessity
7. Death: Unexpected
8. Transfer to another acute-care facility
9. Transfer from general-care unit to special-care unit
10. Neurological deficit present at discharge which was not present on admission
11. Acute myocardial infarction *and* a surgical procedure on same admission
12. Unplanned return to the operating room
13. Unplanned removal, or injury requiring corrective action, or repair of an organ or structure during surgery, or any invasive procedure
14. Cardiac or respiratory arrest
15. Others

Under the DRGs Prospective Payment System, there is a potential risk that some patients will not receive quality care. Despite all the financial pressures on physicians, it is our responsibility to keep the quality of care for our patients our top priority. The MPCRF is concerned about quality of care. If a physician feels that either because of the Prospective Payment System or PRO review there are quality problems, he/she should write to the MPCRF so that we can either address them ourselves or take them to Washington and to the Health Care Financing Administration for appropriate resolution. ■

The Missouri Patient Care Review Foundation is located at 1026 C Northeast Drive, Jefferson City, Missouri 65101. For questions or more information, call toll-free 1-800-392-8060.

"Quality assessment is done strictly by physicians who practice in the same community and usually in the same specialty."

Consider the causative organisms…



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H. influenzae, (ampicillin-susceptible) *H. influenzae,* (ampicillin-resistant) *S. pneumoniae, S. pyogenes*

Brief Summary Consult the package literature for prescribing information

Indications and Usage Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae* and *S pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C difficile* Other causes of colitis should be ruled out

Precautions *General Precautions* – If an allergic reaction to Ceclor® (cefaclor, Lilly) occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e g , pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy – Pregnancy Category B – Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor® (cefaclor, Lilly) There are however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers – Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0 18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor is administered to a nursing woman

Usage in Children – Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain – Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic – Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic – Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal – Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[061782R]

Note Ceclor® (cefaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

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Five-Aminosalicylic Acid Enemas in Treatment of Ulcerative Colitis

Michael S. Fedotin, M.D.
Kansas City, Missouri

Ten patients with ulcerative colitis that failed to respond to ACTH and corticosteroid therapy received retention enemas containing 4 g of 5-aminosalicylic acid. In all patients, bleeding stopped within weeks, and their condition continued in remission.

There are several medical treatments available for ulcerative colitis, including hydrocortisone enemas, sulfasalazine, oral corticosteroids, ACTH, azathioprine, and hyperalimentation.

Sulfasalazine has been shown to be effective both for acute attacks[1, 2] and maintenance treatment of ulcerative colitis.[3, 4] In the colon, sulfasalazine is split by colonic bacteria at the diazo bond to produce 5-aminosalicylic acid and sulfapyridine.[5, 6] A limited amount of the 5-ASA is absorbed. Azad Khan et al[7] and van Hees et al[8] showed that the active moiety of sulfasalazine is 5-ASA, which acts topically on the inflamed mucosa.

Campieri et al[9] showed that a 4 g dose of 5-ASA enema was more effective than a 100 mg dose of hydrocortisone enema.

Table 1 lists 10 patients who failed to improve on ACTH therapy or oral corticosteroids and hydrocortisone enemas, and were treated with 5-ASA enemas. The 5-ASA enemas were 100% effective in treating these patients.

Materials and Methods

All patients in this study had undergone colonoscopy and biopsy with findings of ulcerative colitis primarily involving the left colon. The patients had been on treatment consisting of 20-60 mg of prednisone with topical steroid enemas. Some had been given ACTH in an intravenous dose of 40 units daily for seven days.

The dosage of prednisone was gradually reduced to 20 mg for these patients, at which time a regimen of 4 g of sulfasalazine was started.

However, many patients in this group experienced an exacerbation of symptoms and bleeding as the dosage of prednisone was reduced. All who did reach the 20 mg dosage experienced bleeding and quick exacerbation of symptoms.

These patients had been on continuous therapy for two to nine months before starting the 5-ASA enema therapy. At the time therapy was instituted, all were having gross rectal bleeding and had abnormal sigmoidoscopic findings.

Table 1

Patient Number	Age-Sex	Extent of Colitis	Prior Treatment and Duration	Response to 5-ASA Enemas (no bleeding-normal sigmoid)
1.	34-M	25 cm	60 → 20 mg prednisone ACTH Sulfasalazine Steroid enemas (8 mo)	25 days
2.	29-F	15 cm	30 mg prednisone Sulfasalazine Steroid enemas (12 mo)	14 days
3.	55-F	40 cm	30 mg prednisone Sulfasalazine Steroid enemas (18 mo)	7 days
4.	38-F	L side	30 mg prednisone Sulfasalazine Steroid enemas (9 mo)	7 days
5.	32-M	L side	50 → 30 mg prednisone Sulfasalazine Steroid enemas (8 mo)	3 days
6.	32-M	15 cm	Sulfasalazine Steroid enemas (6 mo)	2 days
7.	59-M	20 cm	30 mg prednisone Sulfasalazine Steroid enemas (11 mo)	4 days
8.	59-F	L side	30 mg prednisone Sulfasalazine Steroid enemas (2 mo)	10 days
9.	50-F	L side	30 → 20 mg prednisone Allergic-Sulfasalazine Steroid enemas (2 mo)	7 days
10.	32-F	L side	30 mg prednisone Sulfasalazine ACTH Steroid enemas (4 mo)	10 days

The enemas were used nightly in 4 g doses, and were retained as long as possible, usually overnight.

Weekly sigmoidoscopy was done until examination results were normal, and then continued at monthly intervals thereafter.

The formulation of the enemas was modeled after Campieri et al[9] and Azad Khan et al[8] (Table 2). The 5-ASA was added to the stock solution just before use.

Results

None of the patients in this study were able to taper off prednisone without recurrence of symptoms and bleeding. As soon as 5-ASA enemas were started, the prednisone dosage could quickly be tapered and stopped. Bleeding also stopped, and sigmoidoscopic findings returned to normal.

The doses of prednisone had varied from 20-60 mg. Prior to beginning 5-ASA enemas, however, none of the patients were able to take doses smaller than 20 mg without recurrence of bleeding.

Bleeding stopped within several days to 25 days in all patients following 5-ASA enema therapy. Sigmoidoscopic findings became normal in all patients by 3½ weeks after treatment.

Table 2

Composition of Enemas

Ingredient:	*Amount:*	
5-aminosalicylic acid	4 g	(Active ingredient)
Sodium Phosphate Dibasic	0.05 g	(Buffering agent)
Sodium Phosphate Monobasic	1.25 g	(Buffering agent)
Sodium Chloride	0.9 g	(Osmolar agent)
Ascorbic Acid	0.05 g	(Reducing agent)
Tragacanth	0.4 g	(Suspending agent)
Methyl Parabens	0.18 g	(Antimicrobial agent)
Propyl Parabens	0.02 g	(Antifungal agent)
95% Alcohol	0.8 ml	(Dissolving agent for parabens & tragacanth)
Sterile Water	qsad to 100 ml	

Discussion

These patients had all been non-responsive to prednisone therapy in doses of 20-60 mg for two months to one year, and bleeding had been persistent. Azad Khan et al[7] and van Hees et al[8] have shown that the active moiety of sulfasalazine is 5-ASA. Campieri et al[9] showed that in treating ulcerative colitis, 4 g of 5-ASA enema was more effective than 100 mg of hydrocortisone enema.

This study, consisting of patients who had only left colon involvement, shows 4 g of 5-ASA enema to be effective in patients who had failed to improve on a regimen of ACTH or cortisteroids and steroid enemas. The patients in this study had all been on long-term steroid therapy with no response. The 5-ASA enemas quickly stopped their bleeding and clinical symptoms in a matter of weeks.

There were no side effects, and the patients have been maintained in remission for three months with only occasional enemas and oral sulfasalazine.

The enemas, while appearing to be the most effective and safest treatment now available for ulcerative colitis in the left colon, have drawbacks. They are expensive, inconvenient to use, and stable only for short periods of time. The ideal therapy in the future might be an oral agent that breaks up in the colon and coats it with 5-ASA to a greater extent than current agents.

Since the time this manuscript was submitted, eight additional patients have been treated with similar results.

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Multicentric Angiosarcoma of the Tarsal and Metatarsal Bones

A Case Report and Literature Review

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Delano, California
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Multicentric angiosarcoma of the bone is a rare condition. In this case, the patient's left foot was affected. A below-knee amputation proved to be successful in treating the condition, which had neither recurred nor spread three years post treatment.

Angiosarcoma of bone is a malignant tumor of the vasculature or precursor cells of the bone vessels. It represents about 0.2% of malignant bone tumors. The rarity of angiosarcoma is supported by the world literature review by Burdens and Brighton[1] (32 cases uncovered and two cases of their own). The ages of the patients range from 3-74 years, with predominance in men (M/F ratio of 2/1). The chief complaint of the patients is usually pain or swelling or a combination of both, in the tumor region. Occasionally limping is noted. Radiographic findings indicate lesions are generally destructive, being represented as an osteolytic defect, often expansible and at times with a "soap bubble" appearance. Periosteal reaction is not a persistent finding. Angiosarcoma may involve a single bone in several sites or multiple bones (multi-centric angiosarcoma, as in this case). Multicentric angiocentric angiosarcoma is rare compared to other bone tumors and makes up 30% of angiosarcomas reported by Burdens and Brighton.[1]

Case Report

The patient was a 58-year-old white man referred to the orthopedic clinic at Truman Medical Center with the chief complaint of left foot swelling and pain of eight months' duration. X-rays of the left foot revealed an expansile lytic mass of the first metatarsal shaft (Fig. 1). The lesion extended to the cortex and involved the second metatarsal and first and second cuneiforms, navicular bones and anterior portion of the calcaneus. The clinical diagnosis was solitary plasmacytoma. Protein electrophoresis results, however, were negative for monoclonal gammopathies. Biopsy of the first metatarsal was performed and a specimen of dark red, blood-clot like, friable tissue measuring 1.8 x 1.7 x 1.8 cm was submitted for frozen section diagnosis. The diagnosis was difficult and was postponed for permanent sections, which revealed an angiosarcoma. A below-knee amputation of the left leg was performed. Three years post operatively, there was no sign of recurrence or metastasis.

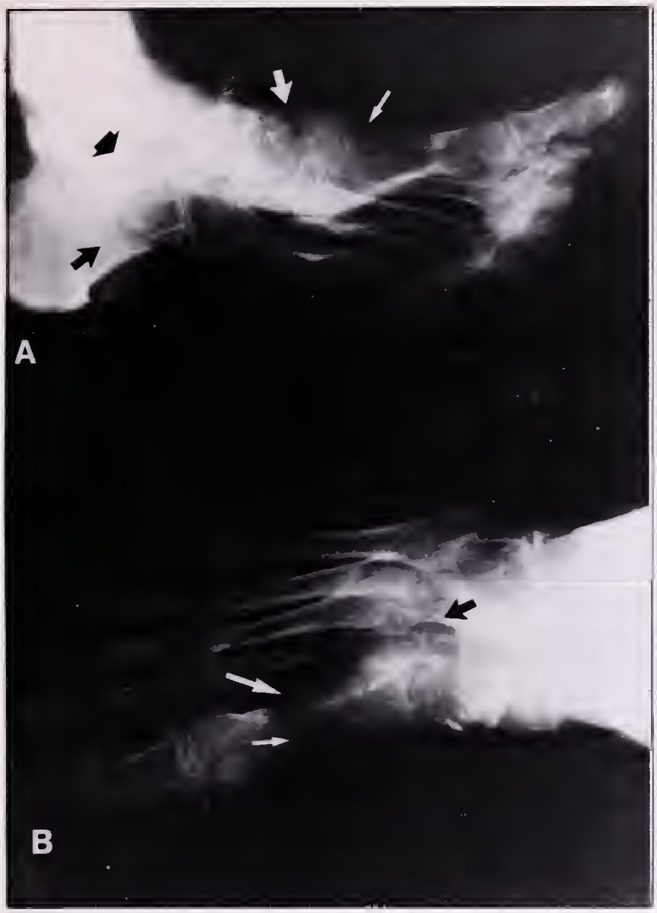

Figure 1. Expansile laculated radiolucent lesions involving the first and second metatarsals, first and second cuneiforms, navicular, talus and distal portion of calcaneal bones.

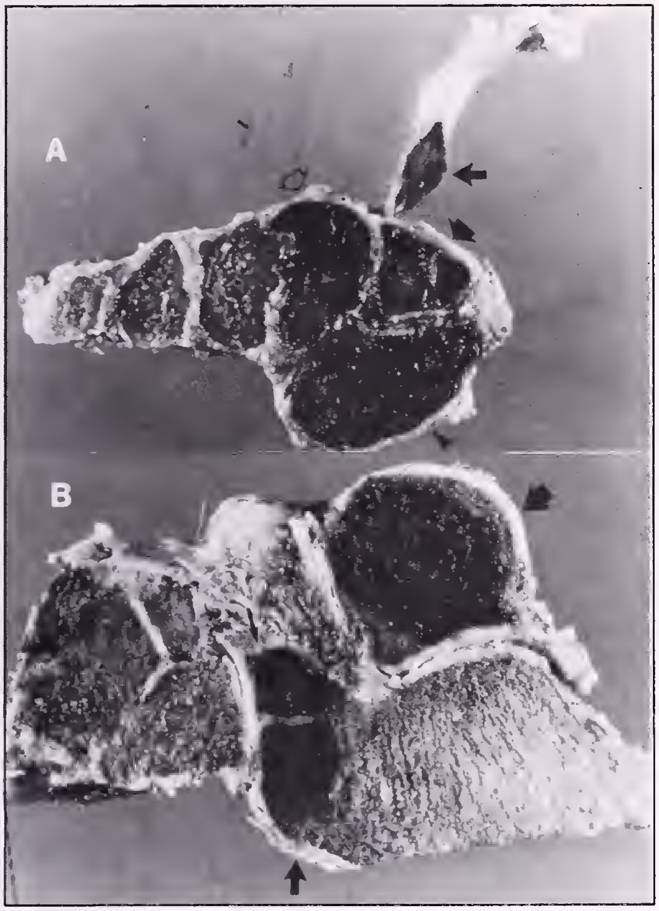

Figure 3. A. Cross section of the left foot showing angiosarcomatous involvement of the dorsalis pedis vein, first and second metatarsals and calcaneal bones. B. Longitudinal section of the foot showing angiosarcomatous involvement of cuneiform, talus and calcaneal bones.

Results

Radiologic studies of the left foot (Fig. 1) showed expansile, destructive, well-marginated radiolucent lesions involving the first and second metatarsal shafts (indicated by small white arrow A, small and large white arrows, and wide black arrow B), first and second cuneiforms (large black arrow B), navicular (large white arrow A), talus (wide black arrow A), and the distal portion of the calcaneus (large black arrow A). A cortical fracture of the first metatarsal bone was also noted. However, there were no sclerotic changes or calcification at the margins of the lesions.

Examination of the biopsy specimen on frozen section revealed highly vascularized tumor tissue with new blood vessel formation and a proliferation of endothelial cells with large pleomorphic nuclei and prominent nucleoli. Also present were areas with vascular anastomosis, and other solid areas had features suggestive of synovial sarcoma (Fig. 2A). A final diagnosis was postponed until permanent sections of the biopsy tissue were made.

The permanent sections of the specimen showed vascular tumor with new blood vessel formation stressed by a proliferation of endothelial cells, some of which were extremely prominent with pleomorphic nuclei. There were also areas simulating a papillary appearance of the tumor. Interacting anastomosis of the vessels was also noted. Following examination of the permanent sections, the diagnosis of angiosarcoma of the bone was made. Amputation of the left leg, below the knee, was performed.

Gross examination of the amputated left leg (Fig. 3) revealed multicentric angiosarcoma involving the first and second metatarsals (indicated by wide black and hollow arrows, and black arrowhead A), the first and second cuneiforms (small black arrow B), talus (wide black arrow B), and calcaneal bones (medium black arrow B), with invasion of the first intermetatarsal branch of the dorsalis pedis vein (small black arrow A). The histologic features were identical to the findings following biopsy (Fig. 2A and 2B). The margins of the amputation were free of tumor.

Tissue samples from the biopsy specimen were submitted for electronmicroscopic study and to the Armed Forces Institute of Pathology (AFIP).

Electronmicroscopic examination and the AFIP report supported the photomicroscopic interpretation of angiosarcoma (Fig. 4). The preliminary "thick" sections showed irregular anastomoses of channels lined by hypertrophied endothelial cells with atypical nu-

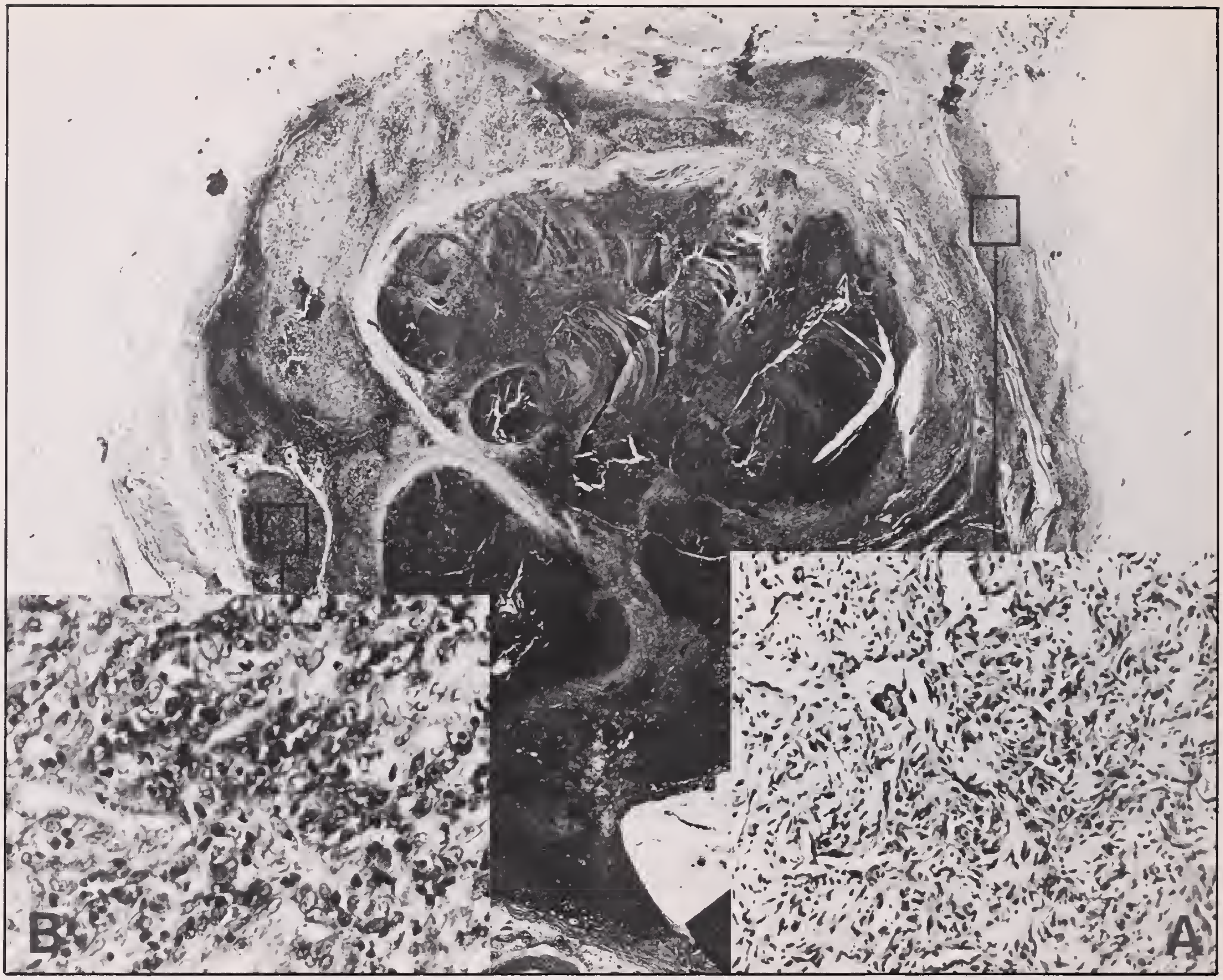

Figure 2. Background is cross section of the metatarsal bone with hemangiosarcoma (H&E, X10). (A) Higher magnification of a portion of the tumor in the cross section and similarly in the frozen section showing the angiosarcoma (H&E, X200). (B) Higher magnification of the tumor in the same cross section (background) showing the angiosarcoma (H&E, X400).

clei. Numerous extravasated and some luminal erythrocytes were present. Other findings included cells with cytoplasmic microfilaments, some micropinocytic vessels and some basolamina.

Discussion

Angiosarcoma of bone has synonyms and related terms, including malignant hemangioendothelioma, malignant hemangioma, angioblastoma, angioendothelioma, hemangioendothelioma and hemangiosarcoma. Angiosarcoma is a malignant tumor of the vasculature or precursor cells of the bone vessels. Endothelial cells appear to be the dominant neoplastic element and have a tendency to form vessels with intricate anastomoses.

A series of 2,962 cases of malignant bone tumors was studied by Dahlin[2] in 1967. Only seven cases (0.2%) were angiosarcomas. In the Willert et al[3] series of 452 cases of malignant bone tumors (1973), no cases of angiosarcoma was reported. In the Larsson et al[4] series of 832 cases of malignant bone tumors (1974), no cases of angiosarcoma were reported.

Angiosarcoma is rare and multicentric angiosarcoma is even less common. Only seven cases of multicentric angiosarcoma were reported out of fifteen cases of angiosarcomas during the years 1930-1970 by the *Hospital for Joint Disease*.[5] Only three of seven cases were well-differentiated multicentric angiosarcomas while four of seven cases were poorly differentiated multicentric angiosarcomas, as in our case.

The age of patients with angiosarcoma of bone varies from 12-68 years (Table 1). Eleven of 15 cases reported involved male patients and only four were in women. The M/F ratio is thus 2/1.[1, 6-13] One case of angiosarcoma involving the metatarsal bone[9] and one case involving the tarsus were included.[9] In only the present case were both bones affected.

The treatment of the tumor varies from supportive therapy[6] to amputation and radiation.[7-12] Prognosis depends mainly upon the spread of the tumor at

Table 1
Showing Summary of Reported Cases of Angiosarcoma of Bone

Authors	Age	Sex	Primary Site	Metastasis	Treatment	Follow-Up
Stone (1929)[6]	25	M	Ribs	Yes		
Hauser (1929)[7]	48	F	Femur	Yes	Supportive	Died on 21st hospital day
Feinberg (1940)[8]	50	M	Left tibia	Yes	Amputation	No recurrence, 10 years
Thomas (loc. cit.)[9]	30	M	Radius (carpus)	—	Radiation amputation	No recurrence, 3 years
Thomas (loc. cit.)[9]	24	F	Fibula	Yes	Excision radiation	Died — 3 years
Thomas (loc. cit.)[9]	30	M	Ribs	Yes	Radiation	Died — 2 years
Thomas (loc. cit.)[9]	—	M	Metatarsal	Yes	Radiation amputation	No recurrence, 1 year
Thomas (loc. cit.)[9]	38	M	Ilium	—	Exploration	No recurrence, 3 months
Thomas (loc. cit.)[9]	50	M	Tibia	—	Amputation	No recurrence, 1 year
Thomas (loc. cit.)[9]	3	M	Tarsus	—	Curettage radiation & amputation	No recurrence, 13 years
Henry (1949)[10]	12	M	Maxilla	—	Excision & electro-coagulation	No recurrence, 27 months
Carter et al (loc. cit.)[11]	68	F	Tibio-fibula, tarsus		Amputation	No recurrence, 2 months
Chow et al (1979)[12]	21	F	Left frontal skull		Exploration radiation & excision	No recurrence, 8 months
Gupta et al (1974)[13]	24	M	Pelvis — left supra — acetabular region		Diagnostic curettage	Died 3rd postoperative day
Present case (Aug. 1980)	58	M	Tarsal-metatarsal		Amputation	Without recurrence up to now, October 1983 (3 years)

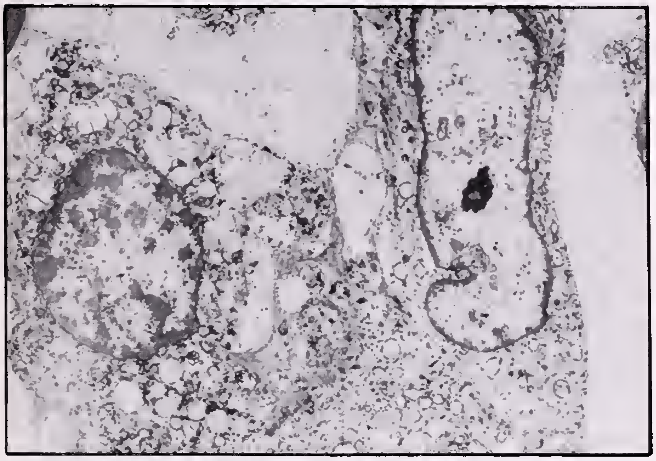

Figure 4. Electron micrograph of hemangiosarcoma of the bone showing the malignant endothelial cells with cytoplasmic microfilaments, micropinocytic vasicles and some basolamina. (Original magnification X3300.)

the time of therapy. Overall, prognosis is fair to good with amputation or amputation and radiation (Table 1). In our case, there was no recurrence of the disease or sign of metastasis for three years following a below-knee amputation of the left leg.

(This case was presented in the Kansas City Society of Pathologists' meeting in November 1983.)

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Acute Mastoiditis Complicated by Bacterial Meningitis

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Acute mastoiditis secondary to otitis media is rare in this era of antibiotics, but may be associated with severe extracranial and intracranial complications. This case of meningitis complicating mastoiditis was treated successfully with antibiotics, myringotomy and mastoidectomy.

Acute mastoiditis is a bacterial infection of the mastoid air cells that usually occurs as a complication in otitis media. The use of antibiotics for therapy of acute otitis media has markedly reduced the incidence of acute mastoiditis.[1, 2] Inadequate, incorrect or incomplete antibiotic therapy in otitis media may allow acute mastoiditis to develop. Acute mastoiditis may have severe and fatal complications including meningitis, labyrinthitis, cerebral abscess and dural thrombophlebitis.[2, 3] Because of the importance of this clinical entity a recent case of acute mastoiditis complicated by meningitis is presented along with a review of the pathogenesis, clinical manifestations, complications and therapy.

Case Report

A 32-year-old white man was transferred to Truman Medical Center due to increasing lethargy and unresponsiveness. During the previous two weeks the patient had been complaining of a severe left earache and persistent headache. He had a full feeling in his left ear, and his hearing acuity had decreased. One week prior to admission the patient was given a decongestant for possible serous otitis media. Over the next four days the patient developed nausea and vomiting, with a purulent discharge oozing from his left ear. On the day of admission he vomited several times and became increasingly lethargic, with worsening otalgia and headache. On arrival at an outlying hospital, he was agitated, confused and semicomatose. He was referred to Truman Medical Center for further diagnostic workup and therapy.

In the emergency room the patient was agitated and combative. He was warm and diaphoretic. His BP was 150/84, pulse rate 116 and temperature 102°F rectally. There was a purulent, bloody fluid draining from the left auditory canal, obscuring the tympanic membrane. There was tenderness over the left mastoid process, but no fluctuant masses were palpable. The pupils were equal, round and reactive to light. There was no nystagmus or papilledema. The patient was responsive only to pain, and could move all extremities. The deep tendon reflexes were hypoactive but equal bilaterally. No pathological refexes were elicited. Kernig's sign was difficult to assess because of the patient's agitation.

The initial WBC count was 34,900 with polys 59%, bands 31%, lymphs 4%, monos 4%, and metamyelocytes 2%. The hemoglobin level was 15.1 gm/dl; the hematocrit, 44.4%. A computed tomography (CT) scan of the head revealed opacification of the left mastoid consistent with mastoiditis, with no evidence of brain abscess or midline shift (Fig. 1). The cerebrospinal fluid was cloudy, with 6,450 WBC/ml (88% poly, 12% monos), and 180 RBC/ml. The glucose level was 3 mg/dl; the protein level was 336 mg/dl. No organisms were seen on gram stain. An AFB smear and India ink stain were both negative. Cultures of the CSF, blood and left ear drainage were taken, and antibiotic therapy was started. Initial therapy included penicillin G (2 million units every two hours) and cefotaxime (2 g every four hours). The admitting diagnosis was left otitis media and left mastoiditis with secondary bacterial meningitis.

The following day the patient underwent a left simple mastoidectomy and wide myringotomy. The mastoid and middle ear were filled with purulent fluid, but no dural dehiscence was present. There was no evidence of cholesteatoma. Over the next few days the fever subsided and the WBC count returned to normal.

The cultures of the CSF and blood were negative for organisms. The ear drainage specimen grew *Streptococcus pneumoniae* sensitive to penicillin. Counterimmunoelectrophoresis (CIE) done on the CSF was positive for *S. pneumoniae.* Cefotaxime was discontinued, and penicillin was continued for a total of 14 days.

The patient's mental status improved considerably after surgery. A repeat CT scan revealed no evidence of brain abscess. The CSF was clear in repeat lumbar puncture, with 70 WBC, (80% polys, 20% monos). The glucose level was 48 mg/dl, and the protein level was 90 mg/dl. A repeat CIE was negative for *Haemophilus influenza* or *S. pneumoniae.*

The patient continued to improve during the hospital course, and was discharged after 16 days. He was to be treated for a mild hearing loss.

Pathophysiology

The mastoid process is a portion of the temporal bone. Within the mastoid process are a number of air cells. The mastoid cells begin to develop after two years of age, but are not fully developed until after puberty.[4] The mastoid antrum is an irregular, air-filled cavity within the mastoid process, communicating with the mastoid air cells. The antrum and the air cells are lined with epithelium that is continuous with the epithelium lining the tympanic cavity by way of the attic (epitympanum) and aditus.[5]

Because of this communication, it is probable that most cases of otitis media also involve the mastoid.[5] However, the clinical signs and symptoms are usually confined to the tympanum. If the mucosa of the epitympanum becomes hyperplastic and edematous, the aditus and antrum may become blocked. Purulent material may then accumulate, with infection trapped within the mastoid air cells. A coalescence of air cells by septation osteitis may occur,[6] and the periosteum may become inflamed and edematous. Postauricular edema, erythema, and tenderness with resultant auricular protrusion may follow, indicating acute mastoiditis. The development of complications depends upon whether the infection is contained within the mastoid, or whether inner or outer cortical bony extension occurs.

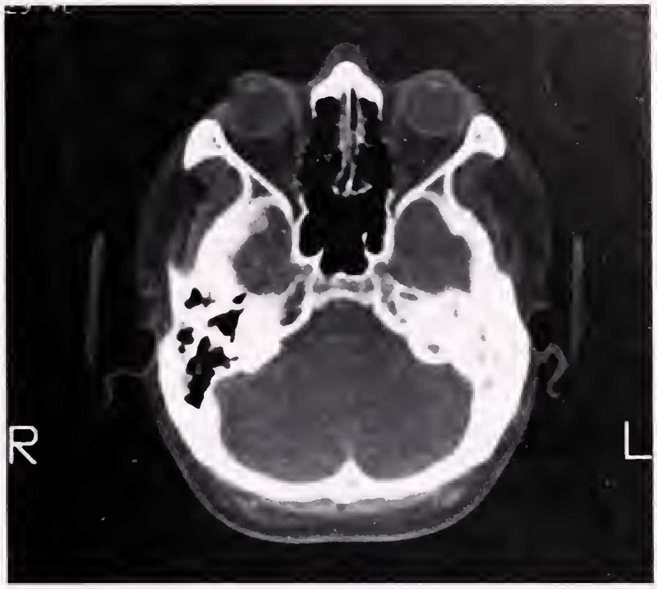

Fig. 1 CT scan of the head revealing opacification of the left mastoid and epitympanic recess, consistent with mastoiditis. There is no evidence of intracranial abnormality.

Incidence

Acute mastoiditis was a common complication of acute otitis media prior to the use of antibiotics.[1, 2] Some report that the true incidence of this complication was between 5%-10%,[7] while others state that acute coalescent mastoiditis complicated acute otitis media in 25%-50% of cases in the preantibiotic era.[6]

In the antibiotic era recognizable acute mastoiditis is quite uncommon. It is reported that in 1959 acute mastoiditis complicated otitis media in 0.4% of cases.[6] It usually occurs in patients with acute otitis media who are not treated, inadequately treated, or incorrectly treated.[6] Because of the low incidence of mastoiditis, the clinician must have a high index of suspicion in these patients with persistent or severe cases of otitis media.[3]

Bacteriology

The bacteriology of acute mastoiditis is somewhat complex. One would expect acute mastoiditis to be caused by the same organisms that cause acute otitis media.[5] It is important that cultures be taken from myringotomy or surgical specimens using a strict

Table 1

Complications of Mastoiditis[1]

- Hearing loss
- Facial nerve paralysis
- Labyrinthine fistula
- Subperiosteal abscess
- Petrositis
- Gradenigo's syndrome
- Lateral sinus thrombophlebitis
- Extradural abscess
- Subdural abscess
- Meningitis
- Brain abscess

aseptic technique. Bacteriologic examination of the discharge from chronic middle ear suppuration provides little practical value for management, because secondary invaders such as *Pseudomonas, Proteus,* and *Staphylococcus* are invariably found.[1] *S. pneumoniae* and *H. influenza* have been common isolates in a number of reports of mastoiditis,[5, 6, 8] while others report a predominance of Group A β hemolytic streptococci.[5, 9]

Clinical Manifestations

The signs and symptoms of acute mastoiditis include a thick, purulent discharge from the ear, dull aching behind the ear, otalgia, hearing loss, and a low-grade fever.[1] A scant grey, foul-smelling discharge may suggest cholesteatoma.[1] In young children poor feeding and lethargy may be the main symptoms. The presence of severe pain or vertigo implies serious complications. Severe pain in a patient with mastoiditis may be due to blocked secretions, exposed dura mater or lateral sinus wall, or an impending brain abscess,[1] which warrants immediate investigation by a CT scan and lumbar puncture. The presence of vertigo suggests that a fistula may have formed secondary to erosion of the bony labyrinth from infection. The horizontal semicircular canal is usually involved.[1] Vertigo may also be due to direct extension of pus into the inner ear causing labyrinthitis. Nuchal rigidity and cranial nerve palsies may occur if mastoiditis is accompanied by intracranial complications.

In mastoiditis, the eardrum usually appears dull, edematous and thick, and may be opacified, bulging, or show evidence of perforation.[2, 10] Edema of the posterosuperior auricular canal wall is often present. There may be a deep bone tenderness with firm pressure over the involved mastoid. Localized edema and erythema of the overlying skin is common. The presence of inflammation in the soft tissues can cause a sagging of the tissues lateral to the eardrum, protrusion of the auricle, or localized swelling. In children less than one year old, the swelling is often above the involved ear, displacing the pinna outward and downward. In those greater than one year old, the swelling is often over the mastoid process, causing an elevated earlobe.[8]

In acute mastoiditis there may be an elevated WBC count with a leftward shift. A gram stain of pus from the middle ear obtained by tympanocentesis or myringotomy is often a rapid and reliable guide for initial antibiotic therapy.[8] This, as well as aspiration of a postauricular abscess, should be cultured for both aerobic and anaerobic organisms. Aspiration of a subperiosteal abscess should be performed carefully in a direction parallel to, rather than perpendicular to, the mastoid process,[5] thus avoiding important underlying structures. The lack of proper isolation and culture technique may account for the small number of anaerobes reported in many studies of chronic otitis media and mastoiditis,[11] as well as the failure to culture organisms in other cases.[12]

Mastoid roentgenograms may be helpful in the diagnosis of mastoiditis. There is often a generalized haziness or clouding of the mastoid process and cells of the petrous ridge,[13] which is due to a swollen mucous membrane and purulent fluid within the cells. There also may be a generalized increase in the opacity of the affected petrous bone.[13] A decalcification of the bony walls between the cells may be present.[2] Roentgenograms may be useful to diagnose the spread of infection and temporal bone destruction.[8]

Because of the difficulty in defining the degree of loss of cellular detail, it may be difficult to diagnose coalescent mastoiditis by roentgenography.[5] However, some have used the presence of a loss of aeration, a breakdown of septations, and cortical definition to diagnose coalescent mastoiditis.[6]

The diagnosis of postotitic mastoiditis is often difficult because of subtle clinical appearance and the insensitivity of traditional x-ray studies.[10] In a study of 15 patients with mastoiditis, the mastoid radiograph taken at the time of admission showed the condition in only one third.[10] These authors suggest that high-resolution CT scanning may be helpful by showing a fluid-filled mastoid process or loss of normal bony septae within the mastoid. In addition, the CT scan can be useful to diagnose complications of mastoiditis, such as venous thrombosis, subdural or epidural empyema, and intracerebral abscess.[10]

Complications

The complications of acute mastoiditis may involve changes within the middle ear and mastoid or result from infection of the contiguous structures.[1, 3] Complications of mastoiditis can be severe and, in certain instances, fatal (Table 1).

Treatment

Treatment will vary depending on the extent of disease at presentation. Surgical intervention is required and will vary from wide myringotomy to simple mastoidectomy to deeper petrous area drainage and concomitant neurosurgical approach. Systemic antibiotics should be initiated prior to culture results of the surgical specimens. Initial therapy should be aimed against *H. influenza* and pyogenic cocci. If a central nervous system infection is feared, the antibiotic should also have the ability to penetrate into the CSF. If the *H. influenza* in the patient's community has a high incidence of β-lactamase production, an antibiotic not degraded by β-lactamase should be used.

Parenteral antibiotics that are effective against *H. influenza* and *S. pneumoniae* include: ampicillin, cefamandole (Mandol), cefotaxime (Claforan), cefoperazone (Cefobid), moxalactam (Moxam) and trimethoprim/sulfamethoxazole (Septra, Bactrim). All of these except ampicillin are stable to β-lactamase production. Agents that would be effective if a central nervous system infection is present incude: ampicillin, cefotaxime, cefoperazone and trimethoprim/sulfamethoxazole.

After the culture results from the surgical specimen are received, therapy can be changed as indicated.

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Reprints

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Endocrine Treatment for Metastatic Breast Cancer

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The presence of estrogen receptor or progesterone receptor protein in a tumor specimen indicates a greater chance for response to endocrine therapy in patients with breast cancer. Endocrine therapy may involve ablative procedures or administration of hormones or antihormones. Response is usually seen within two to six months, sometimes sooner.

Breast cancer accounts for approximately 26% of all cancers in women and is the leading cause of cancer deaths in American women. In 1983, approximately 135,000 new cases were diagnosed and 36,000 women died of the disease. Although few patients have metastatic disease initially, the majority of patients will eventually die of advanced or disseminated breast cancer.

The knowledge that some, but not all, breast cancers responded to endocrine manipulation preceded by many years the understanding of the cellular mechanisms of hormone action. Until the past 20 years, hormonal therapy had been the mainstay of systemic treatment of breast cancer. Current systemic management of disseminated diseases frequently involves the sequential use of various hormonal modalities, chemotherapy, or a combination of the two forms of therapy. This review provides some insight into the understanding of the mechanisms of hormonal treatment of metastatic breast cancer.

Hormone Receptors

The major development in the hormonal therapy of breast cancer in recent years has been the demonstration that the presence of hormonal receptors, particularly those of estrogen and progesterone, in tumor specimens simplifies the task of selecting patients for endocrine therapy. The presence of estrogen receptor (ER) protein in the primary or metastatic tumor specimen is predictive of a higher response to hormonal treatment. Those patients whose tumors are ER-positive have between a 60% to 80% chance of responding to hormonal therapy, whereas patients with ER-negative tumors have less than a 5% chance.[1]. While more postmenopausal patients than premenopausal are ER-positive, response of ER-positive patients is equivalent in both groups.[2] The greatest response rates are observed in those patients whose tumors demonstrate high levels of both estrogen and progesterone receptor proteins.

Table 1

Response to Endocrine Therapy by ER and PR Content

	ER+ PR+ Response/ Total	*ER+ PR− Response/ Total*	*ER− PR+ Response/ Total*	*ER− PR− Response/ Total*
Degenshein[4]	26/33	3/4	1/1	0/14
King[5]	10/11	3/15	0/2	2/9
Lippman[6]	11/14	8/14	0/4	0/12
Matsumoto[7]	12/20	9/25	0/1	0/14
McGuire[8]	99/128	35/110	6/17	10/118
Skinner[9]	9/12	2/6	2/3	3/30

Positive estrogen receptors are associated with a number of pathological and clinical characteristics. Histologically the parameters are related to the degree of differentiation as evidenced by high nuclear and low histological grades, greater elastosis, and the absence of tumor necrosis. Further evidence shows that patients with primary breast cancer (Table 1) whose tumors are ER-positive survive longer and have a longer disease-free interval (DFI) after mastectomy independent of age, menopausal status, tumor size, or nodal status when compared to those whose tumors are ER-negative.[3]

Estrogen is transported via blood and enters the breast cancer cell by diffusion through the cell membrane. It then binds to receptor sites, undergoes transformation, and is translocated to the nucleus where it influences cell growth. Other receptor systems are present in the breast cancer cell and may influence growth and function. Among these are progesterone, androgen, glucocorticoid, and prolactin. The presence of progesterone receptors usually indicates a very high level of ER protein. Only a few tumors that are ER-negative have demonstrable progesterone receptors. The ER and PR assay is predictive of a response to endocrine therapy (Table 2) and is useful in identifying the group of patients most likely to benefit from endocrine manipulation. Patients whose tumors are positive for both estrogen and progesterone receptors are more likely to respond to hormonal therapy. Patients requiring systemic treatment of metastatic breast cancer who have negative estrogen receptors, visceral involvement, or rapid clinical progression of disease should be treated with cytotoxic therapy.

Tumors may be heterogenous with regard to estrogen and progesterone receptors, but in general there is a good correlation between assays performed on the primary tumor and those performed on metastatic foci. Because the receptors are heat labile proteins, the specimens should be frozen immediately after removal and kept at 4°C. Tumors which demonstrate less than 5 femtomoles (fmol) of estrogen receptor protein per milligram of cytosol protein are considered negative, and those with greater than 10 fmol, positive. Very high levels (> 100 fmol) are associated with a greater probability of response.[3]

Table 2

Variables That Predict a Positive Response to Endocrine Therapy

Positive hormone receptors	Negative tumors have less than a 5% chance of responding.
Disease-free interval (DFI)	A long DFI (2 yrs) indicates a higher probability of responding to endocrine therapy than those with a short DFI (2 yrs).
Dominant site of metastatic disease	Disease limited to soft tissue and bone is indicative of a favorable response. Visceral metastases, especially to liver and brain are less likely to respond.
Extent of metastases	Extensive involvement of disease sites is inversely correlated with response. Impairment of vital organ function is an unfavorable sign.
Menopausal age	Premenopausal and above age 35 or postmenopausal by more than 5 years show greater benefit.
Prior hormone response	Patients responding to one form of hormonal therapy are more likely to respond to another.
Performance status	Poor overall physical condition is a poor prognostic factor.

Hormonal Therapy or Chemotherapy

Systemic therapy is usually indicated in the management of metastatic disease. The choice of hormonal therapy or cytotoxic therapy will depend on the characteristics of the tumor, estrogen receptor status, location of dominant metastatic disease sites, extent of involvement of dominant sites, menopausal age, and overall performance status.

It is our approach to use a hormonal modality whenever possible, even if the status of estrogen or progesterone receptors is unknown, since the side effects are usually less than with cytotoxic therapy, the duration of remissions is longer, and the costs are less. On the other hand, induction of remission is usually longer and may be a disadvantage of hormonal therapy. If a rapid response is required because of rapidly progressive disease, visceral involvement, or the overall clinical situation, then chemotherapy is the preferred modality even if estrogen receptors are positive.

Choice of Endocrine Therapy

The types of endocrine therapies available are ablative procedures, hormones and antihormones. All may cause a transient disease flare manifested as increased pain. Therapy should be continued and supportive care given for pain in that circumstance.

Ablative Procedures. Surgical bilateral oophorectomy has been used in the management of metastatic breast cancer since Beatson's report in 1896 of a response in a woman with abdominal carcinomatosis. It remains the preferred choice of therapy for premenopausal patients who have ER-positive tumors and do not have visceral or central nervous system disease. However, it is of no value to and should not be used in postmenopausal women. Radiation castration is equally effective but shows a delayed response. Randomized clinical trials have not demonstrated superiority of other surgical ablative procedures such as adrenalectomy and hypophysectomy over pharmacologic treatment. Therefore, these procedures are now only infrequently performed for treatment of metastic breast cancer.

Tamoxifen. Tamoxifen (Nolvadex®) is an antiestrogen which binds to cytoplasmic estrogen receptor sites and inhibits the interaction of estradiol or circulating estrogen to its binding site. Other actions may occur. Tamoxifen is usually prescribed in a dose of 10 to 20 mg twice daily. No significant therapeutic benefit has been demonstrated with higher doses. Side effects are infrequent; however, hypercalcemia, tumor pain, mild nausea, fluid retention and weight gain, dizziness, alopecia and menstrual irregularities in premenopausal patients have been reported.[10] Tamoxifen is recommended as first-line therapy for suitable premenopausal and postmenopausal patients and may be an alternative to oophorectomy in premenopausal patients, especially if contraindications for surgical or radiation castration exist.

Estrogens. Estrogen therapy is the oldest pharmacologic treatment for advanced breast cancer. Diethylstilbestrol is usually given 5 mg three times daily or ethinyl estradiol 0.5 mg three times daily. Fluid retention frequently leads to cessation of therapy in many patients and may be contraindicated in some patients with hypertension, renal or cardiac disease. Estrogen therapy is as effective as Tamoxifen and cheaper, but is associated with greater side effects.

Progesterone. Response rates are similar to other endocrine therapy. Side effects are minimal, but occasionally weight gain, hypertension and hypercalcemia may be seen. Megestrol acetate is most commonly used with doses of 40 mg four times daily.

Androgens. Androgens are useful in premenopausal as well as postmenopausal patients and may have a positive stimulating effect on the bone marrow. Virilization and hypercalcemia are the most common side effects. Prompt cessation of painful bone disease in responding patients is a distinct advantage. Fluoxymesterone is the most useful agent and is usually prescribed 10 mg three times daily.

Aminoglutethimide. Aminoglutethimide interferes with adrenal steroidogenesis and blocks the conversion of cholesterol to pregnenolone in the adrenal gland. It also inhibits the peripheral conversion of androstenedione to estrone. Its use has almost supplanted surgical adrenalectomy in the management of breast cancer. Replacement hydrocortisone must be given concomitantly. Skin rashes, which are usually self-limited, occur in 30% of patients, and lethargy and dizziness are common, especially during the first two weeks of therapy. Symptoms are less if a higher dose of hydrocortisone and a lower dose of aminoglutethimide are used during the first two weeks of therapy. Aminoglutethimide should be given 250 mg as an oral dose twice daily for two weeks and 250 mg four times daily thereafter. Hydrocortisone should be given 20 mg orally four times daily for two weeks and subsequently 10 mg four times daily. Other side effects may include leg cramps, nausea, depression and hypothyroidism. Higher doses of hydrocortisone may be indicated during acute illnesses, and tapering of doses is usually not necessary following cessation of therapy since the metabolic effect of aminoglutethimide is promptly reversed.[11]

Corticosteroids. Corticosteroids have some antitumor effect, but are particularly useful in the management of elevated intracranial pressure caused by cerebral or leptomeningeal disease. Temporary improvement of symptoms of headache, nausea and vomiting, ataxia, and sensory and motor defects may occur promptly. Dexamethasone 4-8 mg orally, intramuscularly, or intravenously given every six hours is usually sufficient. Doses may be increased or reduced depending on the clinical situation.

Other agents. Other agents with endocrine effects are undergoing clinical trials to determine efficacy in metastatic breast cancer. These incude levodopa, an isomer of the metabolic precursor of dopamine; bromocryptine, a dopamine receptor agonist; danazol, which inhibits pituitary gonadotropin release; and leuprolide, an analog of human gonadotropin releasing hormone. No specific recommendations regarding therapeutic efficacy can be made.

Combined Modality. Combinations using cytotoxic therapy with hormonal therapy may give higher response rates when compared to either single modality alone. There is no convincing evidence of synergism or increased survival in patients treated with combined therapy.

Conclusion

Endocrine therapy should be considered as initial treatment for most patients with metastatic carcinoma of the breast, even if the receptor status is unknown. Objective response to endocrine therapy can usually be observed within two to six months, although symptoms may improve earlier. Careful clinical follow-up to evaluate response and side effects is necessary.

Patients who demonstrate no response should be offered cytotoxic therapy. Treatment for responders and patients with stable disease should be continued until evidence of progression. Following a brief observation period for a withdrawal response, further alternative hormonal options may be considered, but subsequent treatment should be determined by the patient's overall clinical status.

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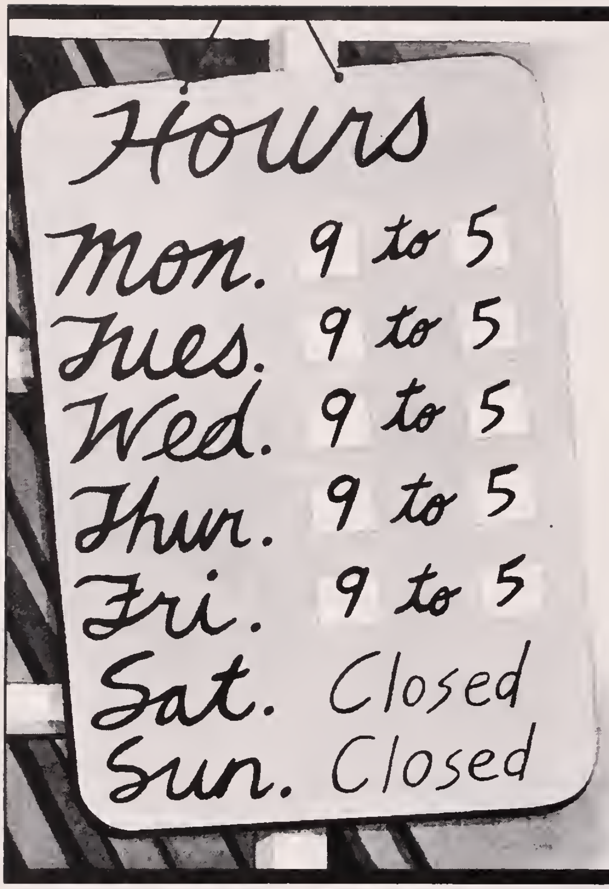

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Medical School News

University of Missouri-Kansas City

- Effective May 1, 1985, **Marjorie Sirridge, M.D.,** was appointed assistant dean and chairman of the Council on Curriculum. Dr. Sirridge succeeds **Beaty Pemberton, M.D.,** who resigned from that position to return full time to the department of surgery at Truman Medical Center. Dr. Sirridge has been associated with UMKC School of Medicine since its early days. She and her husband, **William Sirridge, M.D.,** were two of the three original docents in 1971, and she has served on numerous councils and committees at both the School of Medicine and Truman Medical Center.

In accepting the assistant dean position, she is relinquishing her post as women's liaison officer between the American Association of Medical Colleges (AAMC) and the School of Medicine. **Nancy Litton, M.D.,** associate professor of Pathology, has agreed to succeed Dr. Sirridge in the AAMC post.

- **UMKC Chancellor George A. Russell** recently hosted the School of Medicine's volunteer physician faculty at a reception and dinner at the Alameda Plaza Hotel. More than 100 volunteer physicians, their spouses, and guests were in attendance for UMKC's "Salute to the Community Physician." The community physicians were honored for their many years of teaching time and other professional services donated to the School of Medicine's six-year baccalaureate-medical degree program since its inception in 1971.

- Participants in UMKC School of Medicine's 1985 graduation week activities were treated to a full roster of events. Graduating students kicked the events off with the traditional senior banquet at the Alameda Plaza Hotel on May 28, followed by a baseball game May 29, courtesy of Marion Laboratories. Alumni gathered May 30 for a reunion and scientific seminar. The reunion specifically honored the Classes of 1975 and 1980, but all graduates were invited to attend. **Robert J. Glaser, M.D.,** director for medical science of the Lucille P. Markey Charitable Trust, delivered the School of Medicine's annual Carl Migliazzo Memorial Lecture on May 31. Dr. Glaser is a former dean of Stanford University School of Medicine, in addition to having been a consultant to the National Institutes of Health and to the secretary of Health, Education and Welfare.

- The 89 members of the Class of 1985 participated in the first School of Medicine commencement not held on the UMKC campus. Because the audience has outgrown Spencer Theatre, where commencement had been held for the past several years, the graduates received their diplomas and recited the Oath of Physicians on May 31 at the Music Hall in Kansas City's Municipal Auditorium.

- Bringing together five of the original consultants to the chancellor in the planning of UMKC School of Medicine with a group of its alumni on June 1 was a seminar entitled "The UMKC Program of Undergraduate Medical Education — A Look Back by Four Graduates." Topics addressed ranged from the School's preparation for residency training to its preparation for life experiences. Consultants in attendance were **Alfred P. Fishman, M.D., Norman Cousins, Boisfeiullet Jones, Merlin Duval, M.D.,** and **Homer Wadsworth.** Alumni speakers were **Harriet Langley, M.D.,** Class of 1978, **Paul Steele, M.D.,** Class of 1978, **Eva Frazer, M.D.,** Class of 1981, and **David Hayes, M.D.,** Class of 1977.

- "The On-Call Show" was presented by a group of 70 students from UMKC School of Medicine May 17-18 at Spencer Theater in UMKC's Center for the Performing Arts. The musical-variety show, which included a 10-piece band, consisted of an upbeat combination of singing and dance numbers from the 1950s and 1960s up to the present time.

The University of Missouri-Columbia

The University of Missouri-Columbia (UMC) Medical Alumni Association presented seven awards during the alumni luncheon at the Missouri State Medical Association's annual convention in Kansas City April 12, 1985.

- Receiving the Citation of Merit was **L. Howard Hartley, M.D.,** director of cardiac rehabilitation service and associate professor of medicine at Harvard Medical School.

The Citation of Merit is awarded to graduates of either the two-year or four-year program at the UMC School of Medicine who have gone on to make a name for themselves in the medical profession. Dr. Hartley is the 28th recipient of the Citation of Merit.

Dr. Hartley is a 1959 graduate of the UMC School of Medicine, where he was elected to Alpha Omega Alpha. Following a rotating internship at Parkland Hospital in Dallas, Dr. Hartley completed his residency in internal medicine at the UMC Medical Center in 1960.

He has done fellowships in cardiology at UMC, with Dr. Robert Grover's Exercise Physiology Laboratory at the University of Colorado Medical Center in Denver, and a special NIH fellowship with Dr. Astrand in Stockholm, Sweden to study exercise physiology and exercise conditioning.

Dr. Hartley later served two years as the medical director of the U.S. Army Research Institute of Environmental Medicine in Natick, Maine. Since 1970 he has served on the faculty of Harvard Medical School.

He is the author of more than 60 articles, with particular emphasis on exercise physiology and hypertension.

- Receiving the Young Physician Alumni Awards were **David H. Rosen, M.D.** and **J. Regan Thomas, M.D.** The Young Physician Alumni Awards are given to alumni under the age of 45 who have distinguished themselves in the field of medicine.

Dr. Thomas is assistant professor of otolaryngology in the Division of Facial Plastic and Reconstructive Surgery at Washington University. He earned his medical degree from UMC in 1972, and later served as assistant professor of surgery at UMC from 1976 to 1983.

Dr. Thomas did a surgical residency at Yale and residency in otolaryngology at UMC, followed by a fellowship in facial plastic surgery, co-sponsored by the American Academy of Facial Plastic and Reconstructive Surgery Inc. and **M. Eugene Tardy, M.D.** at Northwestern University and St. Joseph Hospital in Chicago.

Dr. Rosen is an associate professor of psychiatry and medicine at the University of Rochester Medical Center where he also serves as director of consultation/liaison programs and associate director of the Division of Behavioral and Psychosocial Medicine. He earned his medical degree from UMC in 1970 where he received the Student Research Award in Psychiatry, the Scholastic Achievement Award and initiation into Alpha Omega Alpha Honor Medical Society.

Dr. Rosen completed his residency in psychiatry at the University of California Medical Center, Langley Porter Neuropsychiatric Institute, in San Francisco, and later held several positions in the Department of Psychiatry, including assistant professor and director of Psychiatric Aspects of Medical Practice.

- Receiving the Service Award, which is given to alumni who have distinguished themselves through their service to the community, was **Thomas E. Ashley, M.D.**, of Springfield, Mo.

Dr. Ashley has been in private practice in surgery at the Smith-Glynn-Callaway Clinic in Springfield since 1951. He serves on the staff of Cox Medical Center, St. John's Regional Health Center and Springfield Community Hospital.

Dr. Ashley earned the Bachelor of Science degree in medicine from the University of Missouri in 1942 and his medical degree from Harvard University in 1943.

- Awarded honorary membership into the Medical Alumni Association were **Harry G. Hardt, M.D., Kenneth K. Keown, M.D.** and **William A. Sodeman, Sr., M.D.**

Dr. Hardt is the field representative for the Commission on Cancer, American College of Surgeons. He served on the surgery faculty at the University of Illinois from 1948 to 1973 and was staff president at Elmhurst Memorial Hospital in 1972.

Dr. Hardt earned his medical degree from Syracuse University in 1936 and later did a surgery fellowship at the University of Illinois. He served as a major in the U.S. Army Medical Corps during World War II.

Dr. Keown is professor emeritus of anesthesiology at the UMC School of Medicine. He has served on the UMC faculty since 1952, and previously spent four years on the faculty at Hahnemann Medical College and Hospital of Philadelphia.

Dr. Keown earned his medical degree from Hahnemann Medical College and Hospital of Philadelphia in 1941 where he did his residency after serving on active duty in the U.S. Army Medical Corps.

He is the author of a textbook, ANESTHESIA FOR SURGERY OF THE HEART.

Dr. William Sodeman, Sr. of Toledo, Ohio was the first chair of the Department of Internal Medicine at the UMC School of Medicine. He held the post from 1953 to 1957.

He has been head of the Department of Preventive Medicine and chairman of the Department of Tropical Medicine and Public Health at Tulane University School of Medicine, and dean and later vice president for medical affairs at Jefferson College.

- **E. V. Sunderrajan, M.D.**, assistant professor of medicine, presented a paper entitled "Oral Beta Adrenergic Agents Improve Right Ventricular Function in Patients with Chronic Obstructive Pulmonary Disease" in April 1985 at the Right Heart Symposium held in Phoenix, Ariz.

St. Louis University

- **Tapan Roy, M.D.**, acting chairman and assistant professor of radiation oncology, St. Louis University School of Medicine, presented a lecture on the principles of brachytherapy and its application. Dr. Roy's presentation focused on the treatment in which sealed radioactive sources are used to deliver radiation at a short distance by interstitial or surface application. The major advantage of this form of treatment is that high localized doses of radiation can be delivered in a short time at continuous low dose rates.

- **Kenneth R. Smith, Jr., M.D.**, professor of surgery and director of the section of Neurosurgery, has been named president-elect of the 1985-86 Society of University Neurosurgeons.

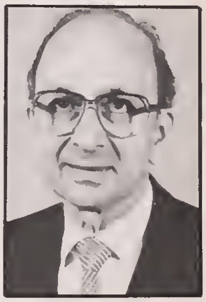
- Internationally recognized leader in cardiovascular disease prevention, **Henry W. Blackburn, M.D.**, visited St. Louis University School of Medicine April 25 and 26 for a series of lectures sponsored by the Preventive Cardiology Program at St. Louis University Medical Center, headed by **Jerome D. Cohen, M.D.**, associate professor of medicine.

As professor of medicine and director of the division of epidemiology at the School of Public Health, University of Minnesota, Dr. Blackburn is currently conducting a large-scale study funded by the National Heart, Lung and Blood Institute examining coronary risk factors and community approaches to intervention.

- **William H. Friedman, M.D.**, professor and chairman of otolaryngology, St. Louis University Hospitals, performed a human tongue reconstruction after near-total removal of the tongue on a 32-year-old man. This was the second time that Dr. Friedman performed this rare surgical procedure.

The patient had squamous cell cancer in stage IV, affecting three-fourths of his tongue and part of his neck. Dr. Friedman removed seven-eights of the tongue, including the cancerous portion and reconstructed a functional tongue using a myocutaneous flap sutured to the nerve-muscle remnant of the remaining tongue.

- **Sameer I. Shehadi, M.D.**, has been named director of the division of plastic surgery at St. Louis University School of Medicine. He succeeds **Francis X. Paletta, M.D.**, who founded the plastic surgery residency program in 1957 and was director from 1957 to 1984.



Dr. Shehadi comes to the medical center after a distinguished career at the American University of Beirut. He earned his medical degree from the American University of Beirut and later completed his training in surgery at that institution.

- The St. Louis University School of Medicine graduated 147 students on Saturday, May 11.

Washington University

■ An internationally-recognized expert on the physical properties and biophysics of lungs delivered the ninth annual I. Jerome Flance Lecture May 2 at Washington University School of Medicine in St. Louis.

Brian Andrew Hills, Ph.D., professor of anesthesiology and physiology at the University of Texas Medical School at Houston, lectured about surfactant in the lungs and other organs. Hills is recognized for observations about the physiologic behavior of surfactant, an important surface lining in the lung. An inadequate amount of surfactant material in the lungs is thought to be a major cause of death in premature infants. He is also an expert on gas transfer across the lungs and on the medical aspects of deep-sea diving, and has served as a consultant to the National Aeronautics and Space Administration on decompression sickness in astronauts.

■ More than 200 physicians from throughout the country returned to St. Louis in May to attend Reunion 1985, sponsored by the Washington University Medical Center Alumni Association.

A highlight of the reunion was the scientific program, which included presentations by faculty members and guests of the Washington University School of Medicine. The program will highlight research on exercise and its benefits to health, especially in relation to ischemic heart disease, aging, the "brittle bone" disorder osteoporosis, and glucose intolerance and insulin resistance.

Faculty members from the department of cardiology discussed newly released study results on the effectiveness of t-PA, or tissue plasminogen activator, a drug that stops heart attacks in progress. There was also a discussion on new technology for the treatment of cardiac arrhythmias. **Karl H. Muench, M.D.,** a member of the class of 1960 who is now on the faculty at the University of Miami, discussed HLA genetics in resolution of disputed paternity.

The Reunion weekend also included a number of social activities, among them a welcoming cocktail party, a walking tour of downtown St. Louis, and dinners for each reunion class. The reunion concluded Saturday night with a dinner/dance. Alumni Achievement Awards and Alumni Faculty Awards were presented in recognition of outstanding contributions to the field of medicine.

■ Elderly people from the St. Louis area are needed as volunteers for a national study that will show whether elderly people benefit from treatment for systolic hypertension.

Washington University School of Medicine is one of 17 national centers participating in the study, called the Systolic Hypertension in the Elderly Program (SHEP). The project is funded by the National Heart, Lung, and Blood Institute and the National Institute on Aging.

Principal investigator of the local study is **H. Mitchell Perry, Jr., M.D.,** professor of medicine and director of the hypertension division at the School of Medicine and a physician at Barnes Hospital, a sponsoring institution of the Washington University Medical Center. The study is being conducted in cooperation with St. Louis University School of Medicine.

SHEP is designed to answer a question that has long been debated among physicians: whether lowering systolic blood pressure with drugs will decrease heart attacks and stroke. Also, researchers will investigate whether medication can favorably affect memory and mental powers in people aged 60 and older, and whether lowering systolic blood pressure improves the quality of their lives.

■ Two young neuroscientists at Washington University School of Medicine have received prestigious foundation fellowships to support their research.

Paul Taghert, Ph.D., assistant professor of anatomy and neurobiology, has been named a Sloan Research Fellow by the Alfred P. Sloan Foundation; and **Lawrence Salkoff, Ph.D.,** assistant professor of neurobiology, has been named a Klingenstein Fellow in the Neurosciences by the Esther A. and Joseph Klingenstein Fund, Inc.

Since 1955, the Sloan Foundation has awarded over $42 million to more than 2,000 young researchers of extraordinary promise. The fellowships were established as a means of encouraging basic research by young scholars at a time in their careers when their creative powers are often most acute and when other support is difficult to obtain.

This year, 90 winners were selected from among 400 nominations by a committee of recognized scientists and economists incuding **Gerald D. Fischbach, M.D.,** Edison Professor of Neurobiology and head of the Department of Anatomy and Neurobiology at Washington University. Each fellow will receive $25,000.

Dr. Taghert, using the simple nervous system of insects, is trying to isolate genes of neuropeptides, substances made by nerve cells. He is studying how the nervous system makes neuropeptides and how they act on other cells, as well as the regulation over expression of these substances.

Dr. Salkoff, one of the six junior investigators to be named a 1985 Klingenstein Fellow, will receive $100,000 to pursue his research. His research involves the use of fruit flies with genetic mutations affecting the nervous system to investigate the molecular properties of membrane ion channels.

■ Researchers at Washington University School of Medicine in St. Louis are seeking volunteers to participate in a continuing national study that compares standard treatment for insulin dependent diabetics with newer forms of treatment.

Washington University is one of 21 medical centers currently participating in the Diabetes Control and Complications Trial (DCCT), sponsored by the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases. Thirteen subjects are being studied at Washington University, with 278 participating throughout the country.

The study is designed to help scientists better understand the association between efforts to control blood glucose levels and the early eye, kidney and nerve complications of diabetes. Specifically, they hope to learn whether keeping blood glucose levels as near to non-diabetic levels as possible is a realistic goal, and whether it will prevent, delay or lessen the severity of complications caused by diabetes.

To be eligible for the DCCT, volunteers must be between the ages of 13 and 40, have had insulin-dependent diabetes for at least one year but no more than 15 years, and have no advanced eye, kidney or nervous system complications of diabetes. They must be free of medical or psychological problems that would make it difficult or unsafe to participate in the study, and should not be planning to become pregnant for at least two years. Also, they must be willing to follow the necessary study responsibilities, including record-keeping and home testing of blood or urine. They must live close enough to St. Louis to keep appointments at the medical center.

More information is available through the DCCT office at Washington University Medical Center, 314-454-6051.

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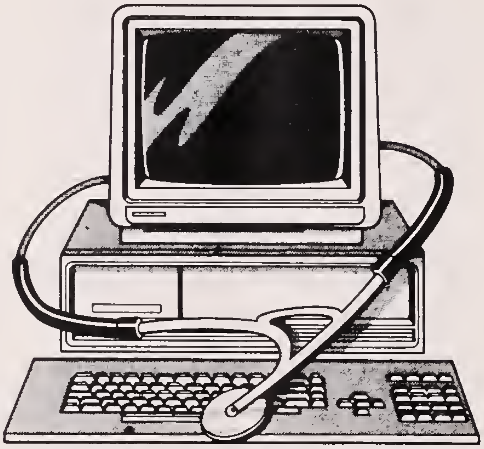

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June

13 **Quarterly Tumor Board Meeting** — Ellis Fischel State Cancer Center. Contact: Janice Gentile, Ellis Fischel State Cancer Center, 115 Business Loop 70 West, Columbia, MO 65203. 314-875-2100, extension 398.

13-14 **A Special Workshop on the Use of CO_2 Laser in ENT Surgery** — University of Kansas Medical Center. Contact: Jan Johnston, CME, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

20 **Review of Orthopaedic Infections** — A one-day symposium designed for orthopedic surgeons. Contact: Anita Herbst, St. Louis University School of Medicine, Continuing Medical Education office, 1402 S. Grand Blvd., St. Louis 63104. 314-664-9800, ext. 167.

20-21 **Topic Reviews in General Pediatrics** — Tan-Tar-A, Lake of the Ozarks. Contact: Jin-Yih Chu, M.D., Cardinal Glennon Hospital, St. Louis. 314-577-5638.

20-21 **Topic Reviews in General Pediatrics** — St. Louis University School of Medicine and Cardinal Glennon Children's Hospital. Location: Tan-Tar-A, Lake of the Ozarks. Contact: Jin-Yih Chu, M.D., Cardinal Glennon Children's Hospital, 314-577-5638.

July

22-31 **Clinical Allergy** — Germany. Contact: Loretta Giacoletto, Washington University School of Medicine, CME, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

August

4-9 **1985 Annual Meeting** — Kansas City, Missouri. American Academy of Clinical Toxicology, American Association of Poison Control Centers, American Board of Medical Toxicology and Canadian Association of Poison Control Centers. Contact: Frederick W. Oehme, Program Chairman, Comparative Toxicology Laboratories, Kansas State University, Manhattan, KS 66506. 913-532-5679.

7 **Surgical Controversies** — Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

14 **Antibiotic Update: Carbapenems** — Kansas City Alameda Plaza Hotel. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

23-24 **Sixth Photocoagulation Workshop Using Different Wavelengths** — University of Missouri-Kansas City School of Medicine and Truman Medical Center. Contact: Harry Kuba, 816-556-3595.

September

6 **Primary Care Update** — Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

7 **Heart and Mind: Neurocardiology Update** — Kansas City Hyatt Regency Hotel. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

12-13 **Annual Surgery Symposium** — Kansas City Hyatt Regency Hotel. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

13-20 **Low Back Problems** — Mississippi Queen, from St. Louis to St. Paul. Contact: Loretta Giacoletto, Washington University School of Medicine, CME, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

17-19 **Fourth Annual Symposium on Geriatrics and Gerontology**: Pharmacology and the Aging Individual — Cosponsors: St. Louis University, St. Louis College of Pharmacy and Veterans Administration. Contact: Cheryl Duff, Conference Secretary, VA Medical Center, CRECC (111G-JB), St. Louis, MO 63125. 314-894-4659.

19 **Quarterly Tumor Board Meeting** — Ellis Fischel State Cancer Center. Contact: Janice Gentile, Ellis Fischel State Cancer Center, 115 Business Loop 70 West, Columbia, MO 65203. 314-875-2100. extension 398.

19-20 **Workshop on the Use of the CO_2 Laser in ENT Surgery** — University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

25-26 **Advanced Cardiac Life Support Provider Course** — University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

27-29 **Second Midwest Regional Conference on Women in Medicine** — Kansas City Alameda Plaza Hotel. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

October

4 **Organ Transplantation** — Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

9-11 **Annual Internal Medicine Symposium** — Battenfeld Auditorium, University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

16 **Infection Control** — Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

November

1 **Cardiac Arrhythmias: New Drugs** — Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

6-8 **Advanced Cardiac Life Support Provider Course** — University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

8 **Advanced Cardiac Life Support Instructor Course** — University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

8 **Dementia** — Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

14-15 **Workshop on the Use of the CO_2 Laser in ENT Surgery** — University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow, Kansas City, KS 66103. 913-588-4480.

15-17 **Twelfth Annual Symposium: Anesthesia and the Geriatric Patient** — Washington University School of Medicine. Contact: Geriatric Symposium, Dept. of Anesthesiology, Washington University School of Medicine, 660 S. Euclid Ave., St. Louis 63110.

December

4 **Endocrinology and Metabolism** — Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

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CONTRAINDICATIONS: In patients with known hypersensitivity to the cephalosporin group of antibiotics.

WARNINGS: *Use cephalosporin derivatives with great caution in penicillin-sensitive patients since there is clinical and laboratory evidence of partial cross-allergenicity of the two groups of antibiotics; there are instances of reactions to both drug classes (including anaphylaxis after parenteral use).* In persons who have demonstrated some form of allergy, particularly to drugs, use antibiotics, including cephradine, cautiously and only when absolutely necessary.

Pseudomembranous colitis has been reported with the use of cephalosporins (and other broad spectrum antibiotics); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with antibiotic use. Treatment with broad spectrum antibiotics alters normal flora of the colon and may permit overgrowth of clostridia. Studies indicate a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis. Cholestyramine and colestipol resins have been shown to bind the toxin *in vitro*. Mild cases of colitis may respond to drug discontinuance alone. Manage moderate to severe cases with fluid, electrolyte and protein supplementation as indicated. Oral vancomycin is the treatment of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile* when the colitis is severe or is not relieved by drug discontinuance; consider other causes of colitis.

PRECAUTIONS: General: Follow patients carefully to detect any side effects or unusual manifestations of drug idiosyncrasy. If a hypersensitivity reaction occurs, discontinue the drug and treat the patient with the usual agents, e.g., pressor amines, antihistamines, or corticosteroids. Administer cephradine with caution in the presence of markedly impaired renal function. In patients with known or suspected renal impairment, make careful clinical observation and appropriate laboratory studies prior to and during therapy as cephradine accumulates in the serum and tissues. See package insert for information on treatment of patients with impaired renal function. Prescribe cephradine with caution in individuals with a history of gastrointestinal disease, particularly colitis. Prolonged use of antibiotics may promote the overgrowth of nonsusceptible organisms. Take appropriate measures should superinfection occur during therapy. Indicated surgical procedures should be performed in conjunction with antibiotic therapy.

Information for Patients: Caution diabetic patients that false results may occur with urine glucose tests (see PRECAUTIONS, Drug/Laboratory Test Interactions). Advise the patient to comply with the full course of therapy even if he begins to feel better and to take a missed dose as soon as possible. Tell the patient he may take this medication with food or milk since G.I. upset may be a factor in compliance with the dosage regimen. The patient should report current use of any medicines and should be cautioned not to take other medications unless the physician knows and approves of their use (see PRECAUTIONS, Drug Interactions).

Laboratory Tests: In patients with known or suspected renal impairment, it is advisable to monitor renal function.

Drug Interactions: When administered concurrently, the following drugs may interact with cephalosporins:

Other antibacterial agents — Bacteriostats may interfere with the bactericidal action of cephalosporins in acute infection; other agents, e.g., aminoglycosides, colistin, polymyxins, vancomycin, may increase the possibility of nephrotoxicity.

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Drug/Laboratory Test Interactions: After treatment with cephradine, a false-positive reaction for glucose in the urine may occur with Benedict's solution, Fehling's solution, or with Clinitest® tablets, but not with enzyme-based tests such as Clinistix® and Tes-Tape®. False-positive Coombs test results may occur in newborns whose mothers received a cephalosporin prior to delivery. Cephalosporins have been reported to cause false-positive reactions in tests for urinary proteins which use sulfosalicylic acid, false elevations of urinary 17-ketosteroid values, and prolonged prothrombin times.

Carcinogenesis, Mutagenesis: Long-term studies in animals have not been performed to evaluate carcinogenic potential or mutagenesis.

Pregnancy Category B: Reproduction studies have been performed in mice and rats at doses up to 4 times the maximum indicated human dose and have revealed no evidence of impaired fertility or harm to the fetus due to cephradine. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

Nursing Mothers: Since cephradine is excreted in breast milk during lactation, exercise caution when administering cephradine to a nursing woman.

Pediatric Use: Adequate information is unavailable on the efficacy of b.i.d. regimens in children under nine months of age.

ADVERSE REACTIONS: Untoward reactions are limited essentially to G.I. disturbances and, on occasion, to hypersensitivity phenomena. The latter are more likely to occur in persons who have previously demonstrated hypersensitivity and those with a history of allergy, asthma, hay fever, or urticaria.

The following adverse reactions have been reported following use of cephradine: G.I. — Symptoms of pseudomembranous colitis can appear during antibiotic therapy; nausea and vomiting have been reported rarely. Skin and Hypersensitivity Reactions — mild urticaria or skin rash, pruritus, joint pains. Hematologic — mild transient eosinophilia, leukopenia and neutropenia. Liver — transient mild rise of SGOT, SGPT, and total bilirubin with no evidence of hepatocellular damage. Renal — transitory rises in BUN have been observed in some patients treated with cephalosporins; their frequency increases in patients over 50 years old. In adults for whom serum creatinine determinations were performed, the rise in BUN was not accompanied by a rise in serum creatinine. Others — dizziness, tightness in the chest, and candidal vaginitis.

DOSAGE: Adults — For respiratory tract infections (other than lobar pneumonia) and skin and skin structure infections: 250 mg q. 6 h or 500 mg q. 12 h. For lobar pneumonia: 500 mg q. 6 h or 1 g q. 12 h. For uncomplicated urinary tract infections: 500 mg q. 12 h; for more serious UTI, including prostatitis, 500 mg q. 6 h or 1 g q. 12 h. Severe or chronic infections may require larger doses (up to 1 g q. 6 h). For dosage recommendations in patients with impaired renal function, consult package insert.

Children over 9 months of age — 25 to 50 mg/kg/day in equally divided doses q. 6 or 12 h. For otitis media due to *H. influenzae*: 75 to 100 mg/kg/day in equally divided doses q. 6 or 12 h but not to exceed 4 g/day. Dosage for children should not exceed dosage recommended for adults. There are no adequate data available on efficacy of b.i.d. regimens in children under 9 months of age.

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Physician's Recognition Awards

Seventy-three MSMA members qualified for the MSMA-AMA Physician's Recognition Award during March 1985.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

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In Memoriam

- **James D. Dunleavy, M.D.,** 4620 J. C. Nichols Parkway, Suite 427, Kansas City 64112; graduate of Creighton University, 1953; member of Jackson County Medical Society; age 60; died March 27, 1985.

- **Albert D. Eshelman, M.D.,** 11804 E. 78th Place, Raytown 64133, graduate of the University of Kansas, 1953; member of Jackson County Medical Society; age 61; died April 4, 1985.

- **William C. Mixson, M.D.,** 12871 Cambridge Terr., Leawood, Kansas 66209; graduate of the University of Texas, 1939; member of Jackson County Medical Society; age 71; died April 13, 1985.

- **Jack N. Wiles, M.D.,** P.O. Box 290, West Plains 65775; graduate of Washington University, 1951; member of South Central Medical Society; age 64; died April 29, 1985.

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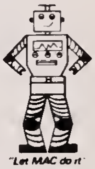

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New Members

- **Richard E. Arnell, M.D.,** Suite 348, 6700 Troost, Kansas City 64131, has become a member of the Jackson County Medical Society. Dr. Arnell received his preliminary education at the University of Miami and his medical education at the University of Miami in 1979. He completed his residency training at the Truman Medical Center, Kansas City, Mo. He specializes in surgery.

- **Bernard D. Beitman, M.D.,** C-6 Health Sciences Center, University of Missouri, Columbia 65212 has become a member of the Boone County Medical Society. Dr. Beitman received his preliminary education at Swarthmore College and his medical degree at Yale in 1968. He completed his residency training at Stanford Medical School, Stanford, Calif. He specializes in psychiatry.

- **Ralph Braunschweig, M.D.,** Harry S. Truman Memorial Veterans Hospital, 800 Hospital Dr., Columbia 65201, has become a member of the Boone County Medical Society. Dr. Braunschweig received his preliminary education at Temple University and his medical degree at Hahnemann Medical College in 1959. He completed his residency training at the Presbyterian Hospital, Philadelphia, Pa. He specializes in anesthesiology.

- **Alfred W. Davis, Jr., M.D.,** 3302 Agnes, Kansas City 64117, has become a member of the Jackson County Medical Society. Dr. Davis received his preliminary education at the University of Kansas and his medical degree at Chicago Medical School in 1984. He is completing his residency training at the University of Missouri-Kansas City Affiliated Hospital, Kansas City, Mo. He specializes in internal medicine.

- **Sandra K. Ediger, D.O.,** 10229 Bond, Overland Park, Kan. 66214, has become a member of the Jackson County Medical Society. Dr. Ediger received her preliminary education at Pittsburg State University and her osteopathic degree at Kansas City College of Osteopathic Medicine in 1983. She is completing her residency training at the University of Missouri-Kansas City Affiliated Hospitals, Kansas City, Mo. She specializes in internal medicine.

- **Douglas E. Goodman, M.D.,** 609 Cherry, 403 Professional Building, Springfield 65806, has become a member of the Greene County Medical Society. Dr. Goodman received his preliminary education at the University of Tulsa and his medical degree at the University of Missouri-Columbia in 1980. He completed his residency training at the University of Missouri-Columbia. He specializes in radiology.

- **Michael L. LeFevre, M.D.,** NW510 University of Missouri Hospitals and Clinics, Columbia 65212, has become a member of Boone County Medical Society. Dr. LeFevre received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1979. He completed his residency training at the University of Missouri Hospitals and Clinics, Columbia. He specializes in family practice.

- **Thomas J. Legg, D.O.,** 1308 N. Glenstone, Springfield 65802, has become a member of Greene County Medical Society. Dr. Legg received his preliminary education at Northeast Missouri State University and his osteopathic degree at Kansas City College of Osteopathic medicine in 1978. Dr. Legg completed his internship at Doctors Hospital, Stark County, Massilon, Ohio. He specializes in general practice.

- **Margaret E. McDonald, M.D.,** 200 First St., SW, Rochester, Minn. 55905, has become a member of Jasper County Medical Society. Dr. McDonald received her preliminary education at the University of Iowa and her medical degree at the University of Iowa in 1980. She is completing her residency training at Mayo Graduate School in Rochester, Minn. She specializes in pathology.

- **Michael G. McDonald, M.D.,** 200 First St., SW, Rochester, Minn. 55905, has become a member of Jasper County Medical Society. Dr. McDonald received his preliminary education at the University of Iowa and his medical degree at the University of Iowa in 1982. He is completing his residency training at the Mayo Clinic, Rochester, Minn. He specializes in anesthesiology.

- **David M. McFadden, M.D.,** 686 Lester, Poplar Bluff 63901, has become a member of Butler-Wayne-Ripley-Carter County Medical Society. Dr. McFadden received his preliminary education at Lincoln Christian College and his medical degree at the University of Southern Illinois in 1979. He completed his residency training at Southwestern Michigan Health Education Center, Michigan. He specializes in general surgery.

- **Joseph J. Muscato, M.D.,** 3401 Berrywood Dr., Columbia 65201, has become a member of Boone County Medical Society. Dr. Muscato received his preliminary education at the University of Pennsylvania and his medical degree at the University of Pennsylvania in 1975. He completed his residency training at Duke University, Durham, N.C. He specializes in internal medicine, hematology and medical oncology.

- **Cielo deGuzman Navato, M.D.,** 3624 Blue Jacket Dr., Lee's Summit 64063, has become a member of Jackson County Medical Society. Dr. Navato received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1984. He is completing his residency training at the University of Missouri-Kansas City. He specializes in internal medicine.

- **Karen J. Oppermann, M.D.,** 4900 Swope Parkway, Kansas City 64130, has become a member of Jackson County Medical Society. Dr. Oppermann receivecd her preliminary education at Houghton College and her medical degree at the Medical College of Pennsylvania in 1981. She completed her residency training at Children's Mercy Hospital, Kansas City. She specializes in pediatrics.

- **William B. Parsons, D.O.,** 5706 N. Jarboe, Kansas City 64118, has become a member of Jackson County Medical Society. Dr. Parsons received his preliminary education at Southwestern State College and his osteopathic degree at Oklahoma College of Osteopathic Medicine in 1983. He is completing his residency training at the University of Missouri-Kansas City Affiliated Hospitals in Kansas City. He specializes in internal medicine.

- **Hansa N. Patel, M.D.,** P.O. Box 506, Bethany 64424, has become a member of Grand River County Medical Society. Dr. Patel received her preliminary education at B.J. Medical College and her medical degree at B.J. Medical College in 1969. She completed her residency training at Methodist Medical Center, Des Moines, Iowa. She specializes in family practice.

■ **Natu B. Patel, M.D.**, P.O. Box 506, Bethany 64424, has become a member of Grand River County Medical Society. Dr. Patel received his preliminary education at Gujarat University and his medical degree at B.J. Medical College in 1967. He completed his residency training at St. Barnabas Hospital, Livingston, N.J. He specializes in general surgery and family practice.

■ **Edward H. Sawicki, M.D.**, 626 E. Battlefield, Springfield 65802, has become a member of Greene County Medical Society. Dr. Sawicki received his preliminary education at St. John's University and his medical degree at the University of Juarez in 1980. He completed his residency training at Conemaugh Valley Memorial Hospital, Johnstown, Pa. He specializes in family practice.

■ **James C. Waldorf, M.D.**, Suite 408, 4400 Broadway, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Waldorf received his preliminary education at the University of Kansas and his medical degree at the University of Kansas in 1977. He completed his residency training at the Mayo Clinic, Rochester, Minn. He specializes in plastic surgery.

■ **Karen J. Weber, M.D.**, 4119 Roanoke, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Weber received her preliminary education at Michigan State University and her medical degree at St. Louis University in 1984. She is completing her residency training at the University of Missouri-Kansas City Affiliated Hospitals. She specializes in internal medicine.

■ **Lynn T. West, M.D.**, M173, University of Missouri Hospitals and Clinics, Columbia 65212, has become a member of Boone County Medical Society. Dr. West received her preliminary education at the University of Missouri-Columbia and her medical degree at the University of Missouri-Columbia in 1983. She is completing her residency training at the University Hospitals and Clinics, Columbia, Mo. She specializes in dermatology.

■ **Steven C. Zweig, M.D.**, Department of Family and Community Medicine, University of Missouri Health Sciences, Columbia 65212, has become a member of Boone County Medical Society. Dr. Zweig received his preliminary education at Harvard University and his medical degree at the University of Missouri-Columbia in 1979. He completed his residency training at the University of Missouri-Columbia. He specializes in family practice.

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In addition, in view of *The Copyright Revision Act of 1976*, effective Jan. 1, 1978, transmittal letters to the editor should contain the following language: "In consideration of the Missouri State Medical Association's taking action in reviewing and editing my submission, the author(s) undersigned hereby transfers, assigns or otherwise conveys all copyright ownership to the MSMA in the event that such work is published by the MSMA." We regret that transmittal letters not containing the foregoing language signed by all authors of the submission will necessitate delay in review of the manuscript. Please include the title of the article in the transmittal letter.

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Editorials should be written in clear, concise language. Length should be about two or three pages typed with double spacing.

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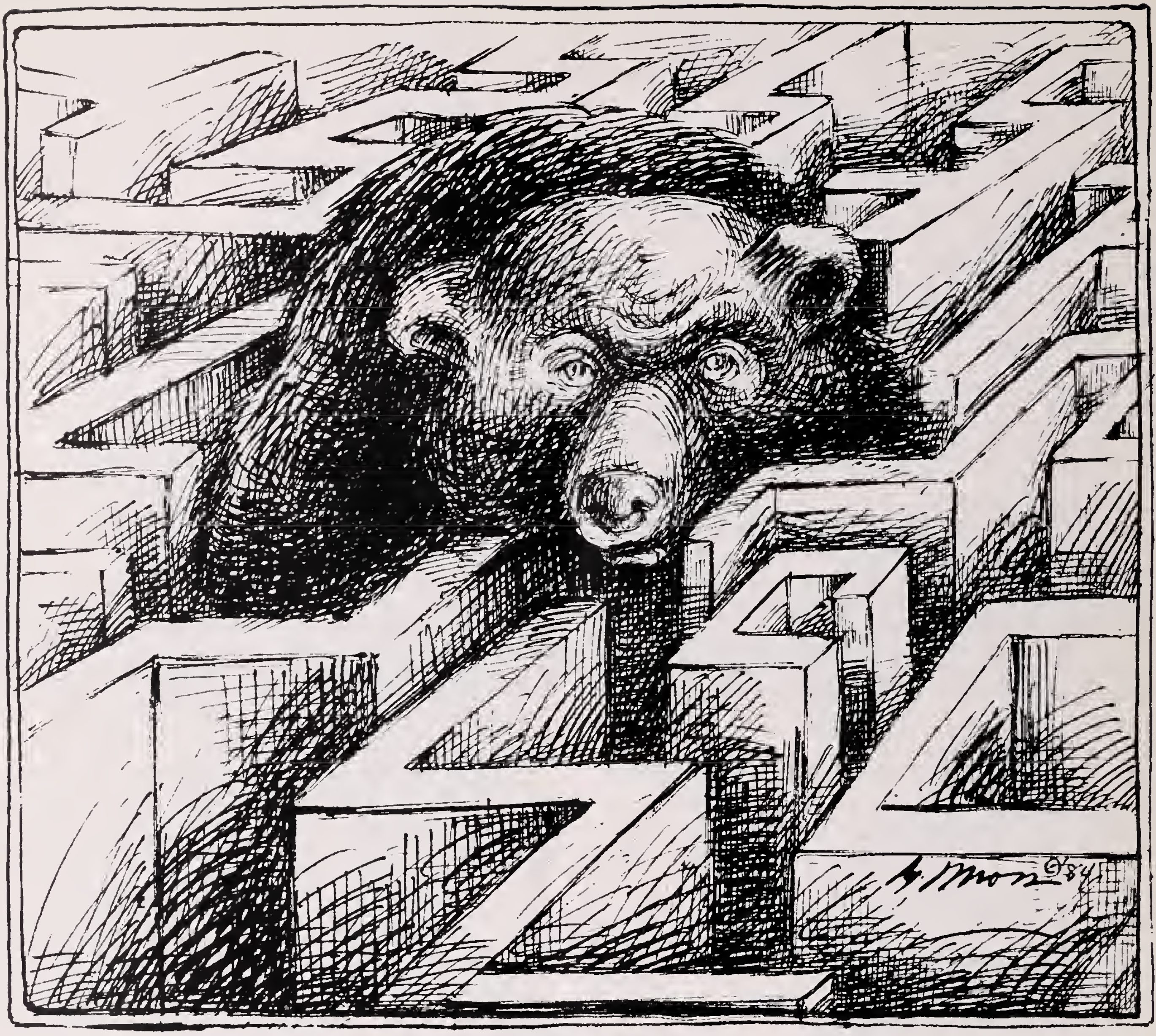

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References: **1.** Kales J *et al*: *Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. **2.** Kales A *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A *et al*: *Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A *et al*: *Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **6.** Kales A, Kales JD: *J Clin Pharmacol 3*:140-150, Apr 1983. **7.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977. **8.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **9.** Amrein R *et al*: *Drugs Exp Clin Res* 9(1):85-99, 1983. **10.** Monti JM: *Methods Find Exp Clin Pharmacol 3*:303-326, May 1981. **11.** Greenblatt DJ *et al*: *Sleep 5*(Suppl 1):S18-S27, 1982. **12.** Kales A *et al*: *Pharmacology 26*:121-137, 1983.

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Vol. 82, No. 7 *Journal of the Missouri State Medical Association* July 1985

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Missouri Medicine (ISSN 0026-6620) is published monthly by the Missouri State Medical Association, P.O. Box 102B, 113 Madison St., Jefferson City, MO 65102.

Subscription rates: $15 per year. Interns and Residents, $7.50 per year.

Second class postage paid at Jefferson City, Missouri and at additional mailing offices.

Postmaster: Send address changes to Missouri State Medical Association, c/o Membership Department, P.O. Box 102B, Jefferson City, MO 65102.

The articles published in *Missouri Medicine* represent the opinions of the authors, and do not necessarily reflect the official policy of the Missouri State Medical Association.

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"Ladybug's Descent," a photograph by *Philo Su, M.D.* Dr. Su is a obstetrician/gynecologist in private practice in Jefferson City, Missouri.

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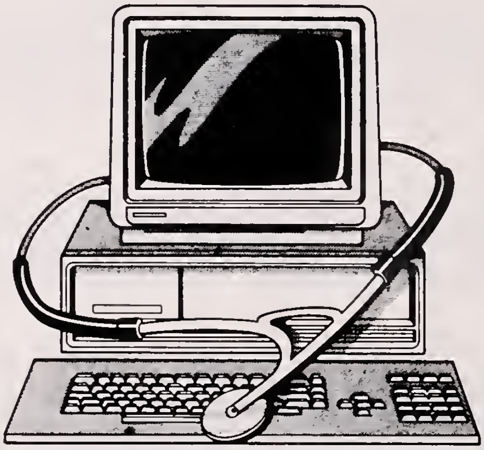

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MSMA Progress Notes

MSMA Council meets to hear and discuss problems, solutions

Current legislative activity, the proposed AMA dues increase and the new contracts issued by Kansas City Blue Cross/Blue Shield were just a few of the subjects addressed by the MSMA Council at its June meeting.

The Council voted unanimously to send a letter to the Kansas City Blue Cross/Blue Shield objecting to the wording of their new contract and asking for an extension of the Blues deadline in order that this may be further studied. This subject will also be referred to the Action Committee to Negotiate with Third Parties and Hospitals for further study.

Doug Viehland named as new head of MOAPS

In other actions, Royal Cooper, MSMA executive vice president, noted that Doug Viehland, former MSMA director of governmental affairs and current executive director of Boone County Medical Society, was chosen as the new executive director of the Missouri Association of Osteopathic Physicians and Surgeons, effective July 1.

Legislative Report

Dr. John I. Matthews, chairman of the Committee on Legislative Affairs, presented a synopsis of medical legislation in the Missouri General Assembly. He reported that the peer review confidentiality bill (HB 357) was not placed on the calendar, thereby killing it for the current session. The living will bill (SB 51) passed both Houses and was signed by the Governor. The bill which would establish a separate department of health (SB 25) passed both Houses and was, at the time, in a conference committee to work out some minor differences. The gunshot reporting bill was passed as amended.

A Senate Interim Study Committee is expected to be established to study the problem of professional and product liability.

Delegates to the AMA encouraged to oppose AMA dues increase

Dr. Michael Conoyer, St. Peters, stated that he had been instructed by his constituents to ask that MSMA oppose any AMA dues increase for 1986. A lengthy discussion followed as to whether or not AMA delegates should be *instructed* as to how to vote on certain issues. Several AMA delegates voiced the opinion that being instructed on how to vote on issues restricts their ability to make an informed decision following receipt of up-to-date information at the convention.

On motion, duly seconded, it was agreed that the AMA delegates should be *encouraged* to oppose any increase in AMA dues for 1986.

PIP to be expanded

The Physician Involvement Program (PIP) begun by MSMA this year was successful, according to C. C. Swarens, MSMA executive director and lobbyist. A total of 13 physicians and four medical students came to Jefferson City, received a briefing at the MSMA office and went to the Capitol to visit with legislators. It is hoped that this program will be expanded next year to include 15-20 physicians every Wednesday during the General Assembly.

Membership figures

At the time of the Council meeting June 1, all dues billing had been completed and the following percentages had been paid: 91% MSMA; 57% AMA; and 26% PAC. Due to the number of active members who have paid AMA direct, MSMA has lost approximately $17,000 in dues.

Of the 433 residents from Missouri who paid AMA dues, 370 of these paid direct to the AMA; of 628 students, 286 paid direct. MSMA currently needs 95 more members to maintain its sixth AMA delegate. MSMA total AMA paid membership is 4,906. Thirty-six percent (1,780) of these are residents, students, and dues-exempt members.

MSMA specialty services continue to expand

Don Wilson and Ron Ellison, MSMA staff members, reported that the MSMA is now providing management services to approximately one-third of the specialty societies in the state. Services provided vary from specialty to specialty, but include some or all of the following: maintain and process applications for membership; maintain membership rosters; maintain financial records; plan annual meetings; publish newsletters; handle computer services; and staff society meetings.

Concerns in St. Louis

Dr. David Wilkinson, St. Louis, reported that there presently are 16 HMOs, IPAs and PPOs in the St. Louis area, and another six are anticipated by the end of 1985. The St. Louis Metropolitan Medical Society Medical-Legal Committee is trying to develop some rapport with the Bar Association to improve interprofessional relations, to establish mediation and arbitration panels, and to discuss professional liability concerns.

Proposed Bylaw changes

Dr. Barbara Buchanan, speaker of the MSMA House of Delegates, led a discussion of needed changes in the current MSMA constitution and bylaws. Under the current constitution and bylaws, the election of officers is to be conducted by written ballot, but is currently being done by voice vote. The Council recommended that the Committee on Constitution and Bylaws revise the constitution and bylaws to allow the first vote to be a voice vote and to specify that a second, written vote may be requested.

The Council also recommended that the Constitution and Bylaws Committee change the procedure to allow the nominating report to be given to the Second Session of the House. (The current bylaws instruct the report to be given to the Third House.) The Council further recommended that the president-elect be nominated along with the rest of the slate at the Second Session of the House of Delegates.

In-state speakers must be members of the Association

Dr. Gary Dyer presented the report of the Commission on Continuing Education and Health Manpower.

To assist specialties in developing their program for the next annual convention, the Commission noted that Chapter II, Section 3 of the MSMA Bylaws states "no person in the active practice of medicine in the State of Missouri shall appear on the program of the Association unless he or she is a member of the Missouri State Medical Association." The Commission further instructed that this portion of the bylaws be forwarded to each specialty for their observance and adherence in planning future programs.

The Commission also agreed that in-state speakers at the annual convention should be reimbursed for travel expenses, but not paid honoraria.

CME activities no longer to be recorded by the medical association

The Commission also recommended, and the Council approved, that the MSMA discontinue its policy of recording members' CME activities and credits. The policy was started in 1976 and today Missouri is the only state recording CME activities of its members. In order to record CME activities in a timely manner, it has become necessary to designate one staff member to do nothing but record these activities. The recording program of the MSMA is duplicating similar recording programs of other specialty organizations.

The Commission also reviewed the Independence Sanitarium and Hospital and recommended re-accreditation for a four-year period. The Council approved the recommendation.

Editorial Board votes against publishing disciplinary actions

Dr. Jordan Burkey, editor of MISSOURI MEDICINE, reported that the Editorial Board and Publications Committee held a joint meeting to decide policy for the *Journal*. The members agreed that non-MSMA members should be allowed to contribute and have published significant articles in the *Journal*.

The members also discussed at length whether the *Journal* should publish disciplinary actions taken by the State Board of Healing Arts against Missouri physicians. It was argued that such information is newsworthy and should be published. However, the majority of the members believed that such information should be published by the State Board of Registration for the Healing Arts, and not by the Missouri State Medical Association using MISSOURI MEDICINE as a punitive device. It was also noted that it would be difficult to decide what to publish about each case, and what not to publish. The members were concerned about the legal ramifications of such publications and also noted that publishing such information could harm the effectiveness of the MSMA Impaired Physician Program's ability to aid the impaired physician. The members agreed not to publish such information. ■

Peer review bill passes in last hour

At 11:20 p.m., Saturday, June 15 (the last day for this session of the Missouri General Assembly), House Bill 357 was adopted by the Missouri legislature. The bill, which made proceedings of medical peer review committees non-discoverable in malpractice actions, overcame a few stumbling blocks in the Senate and rather intense lobbying by the trial attorneys prior to gaining final approval on the last night of the Session.

Again this Session, not one bill opposed by the Missouri State Medical Association passed.

The September issue of MISSOURI MEDICINE will carry a complete recap of bills introduced and passed this year by the General Assembly which may affect your practice of medicine. Also, watch for an exclusive interview with Missouri Governor John Ashcroft as he discusses medical legislation with the Missouri State Medical Association. ■

PRESIDENT'S PAGE

by Walter A. German, M.D.

Despite avowed interest, I look at the cold hard fact that only 36% of MSMA members donate to MMPAC.

Putting your money where your mouth is

As I travel around the state talking with physicians, several things become quite noticeable and, in fact, a paradox becomes quite evident.

Many physicians are interested and concerned about our state legislature, the actions taken therein, and the response of the Missouri State Medical Association to legislative bills and to the actions of various legislators. After discussing these problems, most physicians agree that the Missouri State Medical Association is, in fact, quite active in the legislative field in Missouri and is doing well.

Despite avowed interest on the part of physicians, I then look at the cold, hard facts, and I note that only 36% of MSMA active members donate any funds to the Missouri Medical Political Action Committee (MMPAC) and only 171 are MMPAC Sustaining Members — that is, they give the huge sum of $100 per year. In fact, only 43% of our Key Contacts are members of MMPAC and only 17% of Key Contacts are Sustaining Members!

While MMPAC is not a legal part of MSMA, it does have a great deal of political clout. This is the organization which gives physicians an opportunity to become involved in the election process and to show their support for legislators friendly and understanding to the problems existing in the health care field.

When faced with legislation unfavorable to the health care field, physicians may respond in three ways. One, they may initiate a vigorous educational program for the general public. Two, they may lobby extensively in the state legislature. Or three, they may financially support candidates who are responsive to medical issues.

The Missouri State Medical Association supports and promotes the first two of these reactions, but only practicing physicians can support the third. Other than direct involvement in the election system, donation of funds to this cause is the best way to show your support for organized medicine. Increasing interest in MMPAC is obvious over the past few years by increased giving, but the potential of marked increase is still great. This increased interest on the part of physicians singly reflects an increased involvement and awareness of the Missouri doctors in the legislative field.

MMPAC has been very effective as far as it can go with limited resources. During the last election, 88% of the legislators supported by MMPAC were elected to office. Think what we could have done with ten times as many funds. We have two very fine lobbyists working for us in Jefferson City. I urge each doctor in the state of Missouri to become much more involved in the legislative scene now because medicine is at a crossroads. Guidance is needed now and in the future to insure that good quality medicine remains paramount in our state of Missouri. If you can't help your legislator personally, then give to the Medical Political Action Committee and show your support in this very tangible way. ■

Letters to the Editor

How to provide quality health care to underserved areas

Dear Dr. Burkey:

I have studied a new approach to providing high quality health care to medically underserved areas, rural or urban. All that is necessary to develop this new health care delivery system for a medically underserved area is to rationalize health care delivery. We must recognize that health care delivery involves both emergency and non-emergency care and that both types of care are of varying complexity: primary, secondary, or tertiary, with different physicians for each type and level of health care.

This new approach to health care delivery works in Illinois because Illinois has trauma centers at hospitals throughout the state designed to diagnose and treat trauma victims on the highways of Illinois. These trauma centers are designed, however, to handle the primary and secondary care of any emergency and also provide for tertiary level emergencies by utilizing helicopter transport to Washington University School of Medicine or St. Louis University School of Medicine. The medical center at South Illinois University in Springfield also serves as a diagnostic and treatment center for tertiary level emergencies in southern Illinois.

Once an emergency health care delivery system is set up for a region, it is a logical step to develop a non-emergency health care delivery system for the same region by simply adding primary care physicians (family practitioners, general internists, pediatricians, and gynecologists) to the trauma centers. These physicians would provide primary care to all non-emergencies coming to what I call "Primary Care and Referral Centers." The Primary Care and Referral Centers would provide different physicians for any primary care level emergency and non-emergency. The primary care physician would refer patients needing secondary or tertiary level care to the appropriate specialists or subspecialists at the community hospital where the Primary Care and Referral Center is located or to the designated urban medical center for the most complex emergency or non-emergency care.

This rational health care delivery system which Illinois has developed with the aid of our two fine urban medical centers in St. Louis could be developed in Missouri by setting up Primary Care and Referral Centers in medically underserved areas of Missouri. Patients in this system of health care delivery would be responsible for the fees for this service. Health insurance would be a necessity for secondary or tertiary level health care.

What works in Illinois could work in Missouri, if all the people of Missouri want modern health care.

Morton H. Kirsch, M.D.
St. Louis

Medicine: Camelot It's Not
(but it is the same old tune)

Each evening after all the sick are cared for
Before the predawn call to start again
Think back on what it meant to be a doctor
of Medicine

When patient care was all that really mattered
When payment for the job was not a sin
Before your hopes and dreams were all but
shattered
in Medicine

Medicine! Medicine!
We'd sacrifice, we'd dedicate
For in Medicine! Medicine!
We had some pride, respect and faith

But now third party payers are dictating
Malpractice costs have thrown us for a spin
And "marketing" 's a new word we are hating
in Medicine

Now DRGs, not doctors manage patients
And government continues to butt in
In short we're wearing thin, the chance is looking
grim
For happy ever aftering careers
in Medicine

Thomas N. Huck, M.D.
St. Louis

EDITOR'S DESK

by Jordan W. Burkey, M.D.

A good deal of basic health care is being carried out in the offices of specialists.

Primary care MDs versus specialists

There are many ways in which one can get a group of doctors to argue among themselves. HMOs usually are good for a few rounds. Reaction to the latest ill-conceived edict from a local hospital administrator can also fill the air for a while. However, there is one subject in which the physician make-up of the discussion group is best considered before the conversation gets too involved: the primary care physician versus the specialist.

Unfortunately, the verb "versus" does describe the relationship increasingly well. Ever since a century ago when the first few doctors spun away from the main pack and began treating eyes only, specialization has been the name of the medical game. At the present time, even by padding the "primary care" category to include general internists, pediatricians and obstetricians-gynecologists, statistics indicate that, in Missouri, 56% of physicians are some sort of "specialist."

Specialists come in more than 60 varieties, but have certain elements in common. They are highly educated, highly qualified, and, in general, are in over supply. This has had one end result: with a lot of general medical care needing to be done, and with many of the specialists having the time to do it, a good deal of basic health care is being carried out in the offices of specialists.

The specialists themselves are not of one mind either. Some of the older generation decry the use or overuse of electrodiagnostic and endoscopic procedures by their younger colleagues in performing their doctoral duties. The point can be made that the medical research leads to new ways to practice.

The generalists are beginning to speak up with louder voices concerning their role in the delivery of medicine. Some suggest that it is reasonable that medical center research should include practical ways of putting to use the knowledge we have already in medicine. Is it better to train one super-doc in how to get a fiberoptic view of the gallbladder in action, or to teach potential family practitioners the proper use of H_2 receptor antagonists and antacids in gastrointestinal distress? Would the health and well-being of the nation be better served by training one specialist how to do a total finger reconstruction, or by teaching three generalists in the proper management of sprains and strains?

The socio-political makeup of medicine has been affected by specialization, too. Specialists tend to give their time and dues money to their various specialty organizations, while the AMA, state and local medical associations have to push to maintain membership and influence.

The cost effectiveness of the specialists' approach to a problem is being compared with what the generalists can do. Then, on the near horizon, is the role of gatekeeper for the primary care physician in various health care plans. If nothing else, this should bring the primary care-specialization dichotomy into sharper focus, and conversation around the doctors' coffee tables may become quite pointed. ■

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Hepatitis B Screening and Vaccination in a Facility for the Mentally Retarded

Mohammed N. Akhter, M.D., M.P.H.
Jefferson City, Missouri
Carolyn Stout, M.P.H., and John M. Twiehaus, M.P.A.
St. Louis, Missouri

The high incidence of hepatitis B virus (HBV) among clients and staff of institutions for the mentally retarded is well documented. This study at a St. Louis facility confirmed previously reported data and resulted in a statewide program of screening and vaccination of this high-risk population.

Under the auspices of the Missouri Division of Health and the Department of Mental Health, a hepatitis B screening and vaccination program was initiated at the St. Louis Developmental Disabilities Treatment Center (SLDDTC). The purpose of the program was to collect data for the development of a hepatitis B control program for all facilities for the mentally retarded in Missouri. The results of this program were evaluated to identify the overall endemic level of hepatitis B infection among clients and staff, to identify those individuals at risk for infection, and to vaccinate those susceptible.

Many studies have documented the high prevalence of hepatitis B virus (HBV) infection among clients and staff in facilities for the mentally retarded.[1-14] The infection risk increases with the length of institutionalization and employment.[4, 6, 7, 11] Transmission of infection is thought to be associated with the following factors, which increase the probability of exposure to blood and saliva: mouthing and sharing of objects, excessive drooling, self-abusive or aggressive behaviors, poor personal hygiene, and close interpersonal contacts of clients and staff.[1, 2, 6, 7, 9, 13] Once infected, Down's syndrome patients have an increased predisposition for remaining HBsAg carriers, thus increasing the reservoir of chronic HBV infection within the facility.[2, 4-10]

Method

All employees and clients of SLDDTC who were screened were included in the study. The client population consisted of 330 mentally retarded-developmentally disabled individuals, ages 3 to 76 years. Two thirds of the clients were between the ages of 20 and 50 years, 54% were male, and 80% were severely or profoundly retarded.

The employee population consisted of 671 individuals. Approximately 75% of the employees provided services which involved direct contact with clients; 80% were female, 70% were non-white, and 33% were over 40 years of age.

Blood specimens from 323 clients and 602 em-

Table 1

Distribution of HBV Markers Among Clients and Staff by Sex

Sex	*Total Number*	*Percentage Immune*	*Percentage HBsAg*	*Percentage One or More Markers*
Male				
Clients	173	32.4%	9.8%	42.2%
Staff	115	19.1%	0.9%	20.0%
Female				
Clients	150	13.5%	4.7%	18.0%
Staff	487	13.3%	1.8%	15.2%
Total				
Clients	223	23.8%	7.4%	31.1%
Staff	602	14.5%	1.7%	16.1%

Table 2

Distribution of HBV Markers Among Clients by Age

Age	*Total Number*	*Percentage Immune*	*Percentage HBsAg*	*Percentage One or More Markers*
1-9	15	0.0%	0.0%	0.0%
10-19	58	8.6%	5.2%	13.8%
20-29	109	21.1%	5.5%	26.6%
30-39	76	34.2%	11.8%	46.0%
40-49	33	24.2%	12.1%	36.4%
50-59	21	33.3%	4.8%	38.1%
60 and over	11	63.6%	9.1%	72.7%
	323	23.8%	7.4%	31.1%

ployees were collected during a five-month period, and the sera were screened for anti-HBs and anti-HBc. Those specimens that were positive for either antibody were then tested for HBsAg. Antigen and antibodies were detected by the enzyme immunoassay test (Abbott) according to the manufacturer's instructions. Specimens that were positive for HBsAg were then tested for specificity by the neutralization test using anti-HBs (Abbott) according to the manufacturer's instructions.

Subjects who were positive for either or both antibodies were considered immune. Subjects who were positive for HBsAg were considered infectious and scheduled for retesting after six months to determine carrier status. Subjects who were negative for both antibodies were considered susceptible and were offered Heptavax B vaccine (Merck Sharp and Dohme). Vaccine was administered according to the manufacturer's instructions. Employees were instructed to report any serious reactions or illnesses among themselves or the clients which resulted in hospitalization. Local reactions at the vaccine site were not reported.

Inservice education regarding hepatitis B infection, screening and vaccination was conducted on all shifts over a three-week period. In addition, screening results were discussed with each employee on an individual basis, and recommendations regarding susceptibility and need for vaccination were reviewed at this time.

Table 3

Distribution of Vaccine Acceptance and Vaccine Reactions Among Susceptible Clients and Staff

Subject	*Total Number*	*Number Susceptible*	*Number Vaccinated (%)*	*# Reactions Reported (%)*
Clients	323	222	193 (86.9%)	0 (0.0%)
Staff	602	505	434 (85.9%)	7 (1.6%)

Results

Clients

A total of 323 (98%) of the clients were screened. Overall, 23.8% were immune and 7.4% were HBsAg positive, resulting in a total of 31.1% who were positive for one or more markers, indicating past or present HBV infection. No significant difference between these results and the Centers for Disease Control (CDC) estimates for prevalance of one or more markers (35% to 80%) was observed (Z=1.396, P .05).

The distribution of HBV markers among clients by sex is presented in Table 1. Twice as many males, 9.8%, were HBsAg positive compared to females, 4.5%. Furthermore, 42.2% of the males were positive for one or more markers compared to 18.0% of the females. These findings represent a significant difference in the prevalence of HBV markers between male and female clients (Z=5.25, P .01).

The distribution of HBV markers among clients by age is presented in Table 2. HBV immunity increased with age, ranging from 0 percent in the 10 year age group to 63.6% in the 60 year age group. HBsAg positivity increased with age, peaked at the 40-49 year age group, and declined slightly thereafter.

No vaccine reactions were reported or observed from the 86.9% (193/222) of susceptible clients who were vaccinated (Table 3).

Staff

A total of 602, or 89.6%, of the staff were screened. Overall, 14.5% were immune; 1.7% were HBsAg positive; and 16.2% were positive for one or more markers. These results did not substantially vary from the CDC estimates established for the prevalence of HBV markers among staff in institutions for the mentally retarded.

The distribution of HBV markers among staff by sex is presented in Table 1. No significant difference in the prevalence of one or more markers between male and female employees was observed (Z=1.25, P .05).

Among direct care staff, those at highest risk for HBV infection were physicians, volunteers, developmental assistants, and hospital attendants. Among non-direct care staff, those at highest risk for HBV infection were maintenance, motor pool, and custodial workers (Table 4).

A total of 434, or 85.9%, of the susceptible em-

Table 4

Distribution of HBV Markers Among Staff by Job Classifications

Job Class	*Total Number*	*Percentage Immune*	*Percentage HBsAg*	*Percentage One or More Markers*
Physician	6	66.7%	0.0%	66.7%
Volunteer*	18	44.4%	0.0%	44.4%
Maintenance	12	33.3%	0.0%	33.3%
Motor Pool	9	33.3%	0.0%	33.3%
Housekeeper	30	16.7%	10.0%	26.7%
Dev. Asst.	268	16.4%	1.5%	17.9%
Hosp. Attendant	47	14.9%	2.1%	17.0%
Laboratory	6	16.7%	0.0%	16.7%
Psychologist	9	11.1%	0.0%	11.1%
Administrator	30	10.0%	0.0%	10.0%
Therapist	31	3.2%	3.2%	6.5%
Dietary	33	6.1%	0.0%	6.1%
Nurse	35	5.7%	0.0%	5.7%
Office Clerk	35	2.9%	2.9%	5.7%
Teacher	18	5.6%	0.0%	5.6%
Dental	7	0.0%	0.0%	0.0%
Soc. Serv.	4	0.0%	0.0%	0.0%
Pharmacist	4	0.0%	0.0%	0.0%
TOTAL	602	14.5%	1.7%	16.2%

* Foster grandparents assisting with direct care activities.

ployees were vaccinated. Seven employees, 1.6%, reported reaction to the vaccine (Table 3). Five women reported symptoms of nausea, vomiting, stomach cramps, diarrhea, and headache within 24 hours of the first dose of vaccine; two women reported the onset of suspected allergic reactions several days after immunization.

Discussion

Clients

The overall prevalence of HBV markers among clients, 31.1%, was less than, but not significantly different from, rates reported in previous studies, 35-80%.[1, 4-9, 11, 13]

The sigificantly higher percentage of HBV infections among male clients is consistent with previous reports.[6, 7, 9] However, failure to demonstrate a similar sex-related difference among employees weakens the possibility that HBV infection may be associated with a sex-related genetic factor. Further investigation of male and female adaptive behaviors is indicated to identify relevant behavioral characteristics which may account for this observation.

Staff

The overall prevalence rate of HBV markers among staff, 16.2%, is comparable to that reported in previous studies, 11-33%.[6-8, 11, 13] However, in contrast to the observations of Madden (1976), there was no clear relationship observed between HBsAg positivity of the clients and prevalence of markers among direct care staff. Lack of correlation may be due to the recent internal reorganization of the SLDDTC, which resulted in the transfer of long-term employees and hiring of new employees to meet staffing requirements.

The exceptionally high rate of markers among medical staff (66.7%) may be due, in part, to national origin and past medical practice in geographic locations (India and Far East) with higher endemic levels of HBV infection.

Although the population of maintenance and housekeeping staff was small, it is interesting that the risk for HBV infection among these individuals (28.5%) was greater than that observed among all treatment and direct care staff (18.7%). This may suggest that frequent contact with contaminated articles in the environment of HBsAg positive clients places the employee at an increased risk of HBV infection. Lack of convenient hand washing facilities and failure to don protective gear, such as gloves, inccreases the likelihood of such exposure.

Based upon this study, a statewide program of screening and vaccination of employees and clients in facilities for the mentally retarded was developed. Because of the high percentage of clients with HBsAg+ markers (Table 1), it was decided to vaccinate all susceptible employees and clients in other facilities. A low percentage of reactions to vaccine and a high rate of acceptance (Table 3) both by employees and clients contributed to this decision.

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Reprints

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Non-Surgical Balloon Dilation Procedure for Coarctation of the Aorta

Ramon V. Canent, M.D.
Kansas City, Missouri

Seven patients, ages 1 month to 14 years, underwent successful balloon dilation angioplasty procedures for coarctation of the aorta. The technique is explained and is advocated as a safe, effective, non-surgical alternative to correct the anomaly.

It has been six years since Gruentzig[1] introduced the non-surgical technique of mechanically dilating discrete, subtotal stenosis in the coronary artery by using a special balloon catheter. In recent years, the use of percutaneous transluminal angioplasty has been extended to treat various types of congenital heart lesions in infants and children.[2, 3] This report describes the result of balloon dilation angioplasty performed in seven patients with isolated, discrete coarctation of the aorta. Pressure measurements and angiographic studies were obtained before and after the balloon dilation procedure to assess the efficacy of treatment.

Method

Seven patients, ages 1 month to 14 years, underwent transluminal balloon dilation angioplasty for discrete coarctation of the aorta. All patients had clinical evidence of coarctation of the aorta, manifested by non-palpable or decreased femoral pulses; systolic hypertension in the upper extremities as compared to systolic pressures in the lower extremities; and systolic murmurs at the left lower sternal border, left side of the chest and the back. Chest x-rays, electrocardiograms and echocardiographic studies were obtained as part of pre-catheterization evaluation.

Two infants under 2 months of age were in congestive heart failure; one had an associated large ventricular septal defect, and the other had a complete atrio-ventricular canal defect.

For cardiac catheterization all the patients over 3 months of age were premedicated with meperidine (2 mg/kg) and promethazine (1 mg/kg) given intramuscularly about 30 minutes prior to the procedure. If needed, some patients were given diazepam (0.2 mg/kg) via the cardiac catheter just before the balloon dilation angioplasty was performed. The infants were given chloral hydrate oral suspension in the catheterization laboratory (30 mg/kg). Cardiac catheters were introduced into the groin vessels after local infiltration with 1% lidocaine.

Complete catheterization studies of the right and

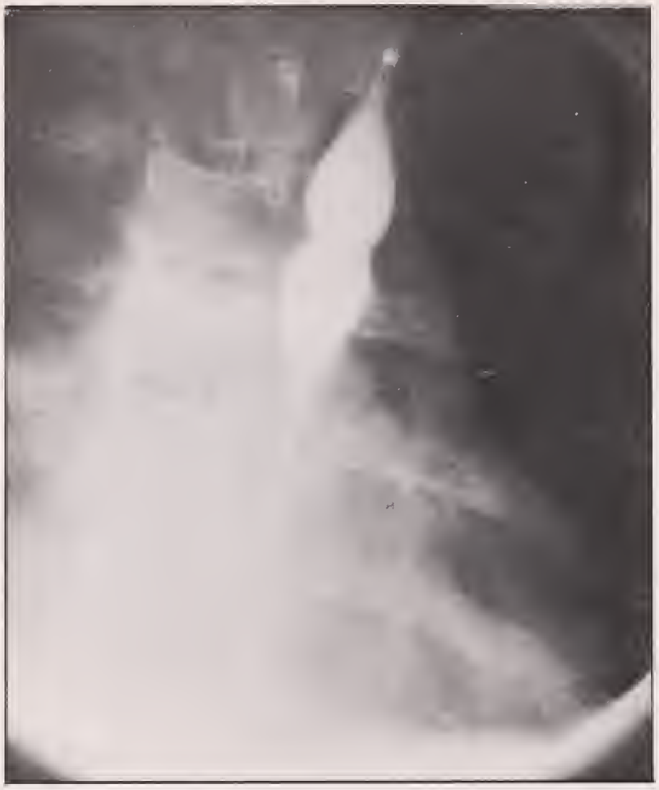

Figure 1. The partially inflated balloon shows "waist" (indentation caused by the coarctation ridge before dilation angioplasty).

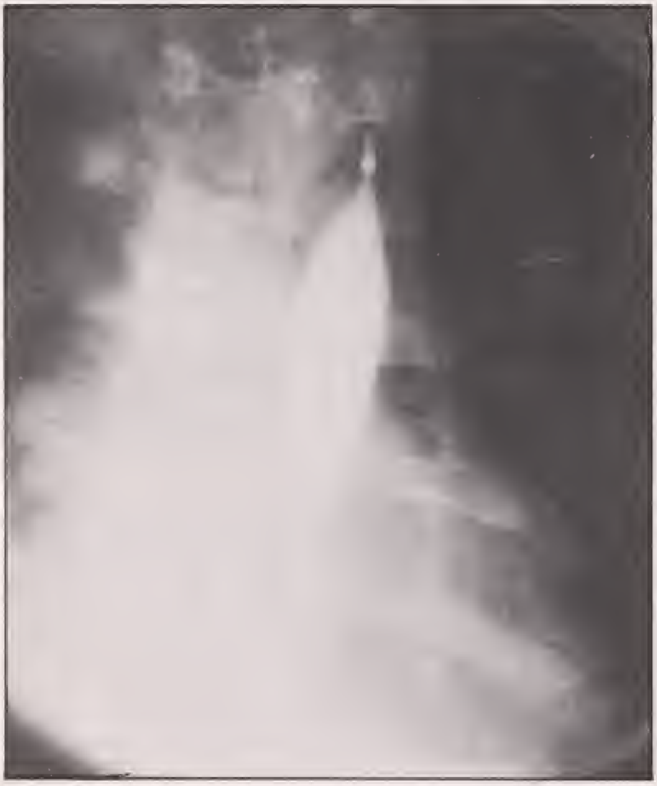

Figure 2. After successful balloon angioplasty, the coarctation ridge is completely obliterated.

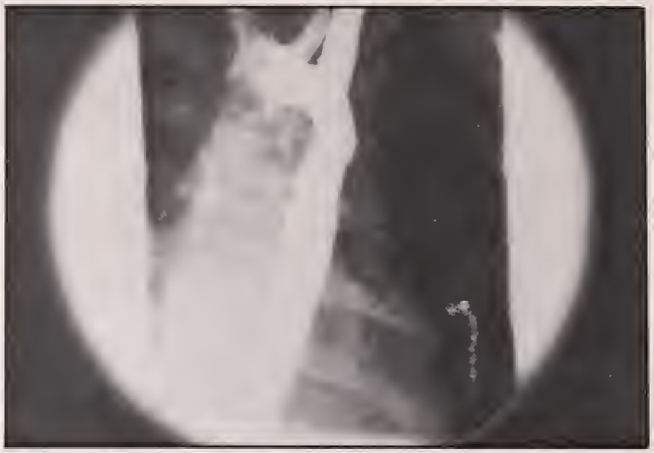

Figure 3. Repeat aortogram shows the area of coarctation to be successfully dilated with no evidence of residual obstruction.

left sides of the heart were carried out, recording pressures across the aortic valve and the site of the coarctation. Biplanar cineangiograms were filmed in the aortic arch, proximal to the coarctation. Measurements of the aortic diameter were made at a point 1 cm proximal and distal to the area of the coarctation. After accounting for the magnification factor of our x-ray unit, the proper size of the balloon dilation catheter was determined to be 1 mm less than the aortic diameter, not to exceed the measured aortic diameter.

To avoid air embolization in the event of balloon rupture, air was evacuated from the balloon by inflating and deflating the balloon several times with a 50/50 mixture of saline and contrast solution. The dilation catheter was positioned in the area of the coarctation with the use of a guidewire. The dilation balloon was partially inflated to identify the exact location of the aortic coarctation ridge (Fig. 1). The midportion of the balloon was positioned slightly proximal to this point. The balloon was progressively inflated until the "waist" (indentation of the balloon caused by the coarctation ridge) was completely eliminated (Fig. 2). This usually required an inflation pressure of 90 to 120 psi, and an inflation-deflation cycle of approximately 15 seconds or less. The patients were allowed to stabilize, then pullback pressure recordings across the site of coarctation and biplane cineangiograms were repeated to assess the peak systolic pressure gradient and the aortic diameter after the dilation procedure (Fig. 3).

Results

The hemodynamic measurements in all seven patients who underwent balloon dilation angioplasty are summarized in Table 1.

Before the procedure, the peak systolic pressure gradient across the site of coarctation averaged 58 mm Hg, and ranged from 22 mm Hg to 80 mm Hg. After the angioplasty, the peak systolic pressure gradient decreased to 0 mm Hg to 20 mm Hg, averaging 10 mm Hg. A typical pressure tracing is illustrated in Fig. 4, obtained in one patient with a significant gradient of

Table 1

Hemodynamic data

Peak systolic gradient response to balloon dilation angioplasty

Patient	Age	*Before angioplasty* Peak gradient (mm Hg)	*Before angioplasty* CI (1/min/m^2)	*After angioplasty* Peak gradient (mm Hg)
1.	1 mo	62	4.8	16
2.	5 mo	22	3.7	8
3.	5 mo	68	5.3	20
4.	16 yr	58	8.6	0
5.	2.5 yr	46	5.6	16
6.	14 yr	80	7.6	0
7.	6 yr	50	4.9	16

CI = cardiac index by fick method

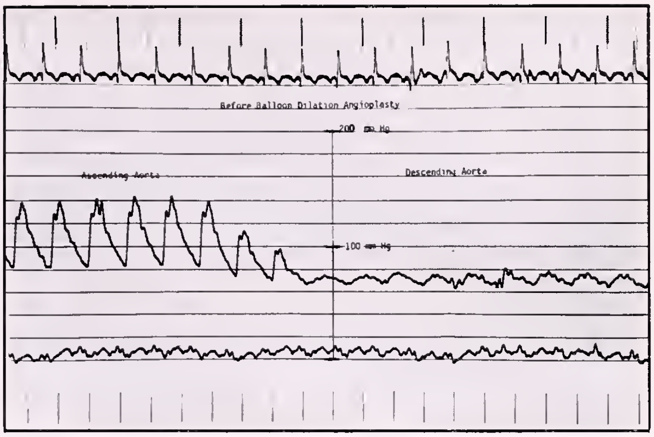

Figure 4. Pressure recording across the site of coarctation showing peak systolic gradient of 70 mm Hg before balloon dilation angioplasty.

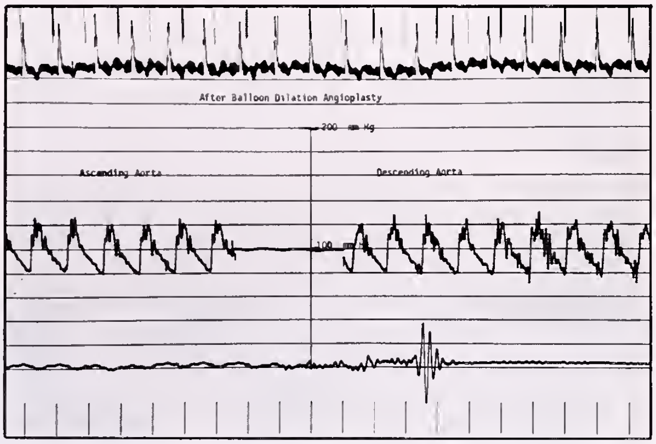

Figure 5. Pressure recording from the ascending and descending aorta showing 0 gradient after successful balloon dilation angioplasty.

70 mm Hg before dilation. After the successful dilation procedure, there was equalization of the ascending and descending aortic pressures, with 0 gradient (Fig. 5).

Of the seven patients who underwent the procedure, two were being treated for recurrent coarctation after previous surgical correction. (Eight years previous in one patient; six years previous in the other.)

Another patient, 5 months old, had had an initial dilation angioplasty at 3 weeks of age. Progressive hypertension in the upper extremities and marked decrease in pulse in the femoral arteries indicated severe coarctation of the aorta. This was successfully dilated the second time. All other patients previously had not been operated on.

Complications

In this group of patients who had balloon dilation angioplasty for coarctation of the aorta, no serious complications have been observed. Two patients complained of chest pain, lasting 30 minutes in one patient, following successful dilation. The angiographic studies demonstrated some irregularity in the internal lining of the aorta, but there was no evidence of dissection or extravasation of contrast dye. There has not been any requirement for urgent surgery in any patient. The balloon catheter ruptured on two occasions. As designed by the manufacturer, the balloon split longitudinally down the seam. This prevents fragmentation and dispersion of the ruptured balloon. Because of the extra effort to prevent air embolization, we have not had this complication occur.

Follow-up

Five of the seven patients have had clinical evaluation in our follow-up cardiac clinic. All patients had normal systolic pressures in the upper extremities, and good pulsations were present in the femoral arteries. In the three patients who also had blood pressure measurements in their lower extremities, no pressure differences that would indicate significant recoarctation were observed. These patients are scheduled for re-catheterization studies in the near future.

No long-term follow-up data is therefore available in our series of patients as only one patient had recatheterization and angiographic studies six months following successful angioplasty.

This patient had a peak systolic pressure gradient of 46 mm Hg before dilation, which decreased to 16 mm Hg after dilation, with angiographic evidence of complete obliteration of the coarctation ridge. Pressure measurements and repeat angiograms six months after the angioplasty showed the gradient to be only 8 mm Hg, and the area of previous coarctation has remained widely patent. In addition, collateral vessels, which had been abundant before the procedure, were absent on the repeat angiogram.

Summary

The result of our initial experience with balloon dilation angioplasty in seven patients is encouraging. It appears that the procedure is not only effective in

patients as an initial mode of treatment but also is effective as an alternative in patients who have recurrent coarctation after previous surgery. Greater experience and long term follow-up are needed to detect possible late complications, including recurrence of stenosis or coarctation. At the present time, the procedure has been proven to be a safe and effective nonsurgical alternative for relief of obstruction caused by discrete coarctation of the aorta.

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2. Singer MI, Rowen M, Dorsey TJ: Transluminal aortic balloon angioplasty for coarctation of the aorta in the newborn. *Am H J* 1982;103:131.
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The Author

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The author is chief of the section of cardiology at The Children's Mercy Hospital, Kansas City.

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July

12 **Advanced Trauma Life Support Refresher Course** — University of Kansas Medical Center. Contact: Mrs. Jody Scott, Dept. of Surgery, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-6124.

22-31 Clinical Allergy — Germany. Contact: Loretta Giacoletto, Washington University School of Medicine, CME, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

August

4-9 **1985 Annual Meeting** — Kansas City, Missouri. American Academy of Clinical Toxicology, American Association of Poison Control Centers, American Board of Medical Toxicology and Canadian Association of Poison Control Centers. Contact: Frederick W. Oehme, Program Chairman, Comparative Toxicology Laboratories, Kansas State University, Manhattan, KS 66506. 913-532-5679.

7 **Surgical Controversies** — Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

15-16 **Advanced Trauma Life Support Provider Course** — University of Kansas Medical Center. Contact: Mrs. Jody Scott, Dept. of Surgery, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-6124.

23-24 **Sixth Photocoagulation Workshop Using Different Wavelengths** — University of Missouri-Kansas City School of Medicine and Truman Medical Center. Contact: Harry Kuba, 816-556-3595.

September

6 **Primary Care Update** — Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

7 **Heart and Mind: Neurocardiology Update** — Kansas City Hyatt Regency Hotel. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

12-13 **Annual Surgery Symposium** — Kansas City Hyatt Regency Hotel. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

13-20 **Low Back Problems** — Mississippi Queen, from St. Louis to St. Paul. Contact: Loretta Giacoletto, Washington University School of Medicine, CME, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

17-19 **Fourth Annual Symposium on Geriatrics and Gerontology:** Pharmacology and the Aging Individual — Cosponsors: St. Louis University, St. Louis College of Pharmacy and Veterans Administration. Contact: Cheryl Duff, Conference Secretary, VA Medical Center, CRECC (111G-JB), St. Louis, MO 63125. 314-894-4659.

19 **Quarterly Tumor Board Meeting** — Ellis Fischel State Cancer Center. Contact: Janice Gentile, Ellis Fischel State Cancer Center, 115 Business Loop 70 West, Columbia, MO 65203. 314-875-2100. extension 398.

19-20 **Workshop on the Use of the CO_2 Laser in ENT Surgery** — University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

21 **Hand Injuries in the Workplace: Medical and Economic Aspects** — St. Louis University Learning Resources Center. Contact: Anita Herbst, St. Louis University School of Medicine, CME, 1402 S. Grand Blvd., St. Louis 63104. 314-664-9800.

25-26 **Advanced Cardiac Life Support Provider Course** — University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

27-29 **Second Midwest Regional Conference on Women in Medicine** — Kansas City Alameda Plaza Hotel. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

October

4 **Organ Transplantation** — Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

9-11 **Annual Internal Medicine Symposium** — Battenfeld Auditorium, University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

10-11 **Advanced Trauma Life Support Provider Course** — University of Kansas Medical Center. Contact: Mrs. Jody Scott, Dept. of Surgery, University of

Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-6124.

16 **Infection Control** — Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

22-23 **Medicine and Religion: The Supreme Being, the Supreme Court, and the Almighty Dollar** — University of Kansas Medical Center. Contact: Promotion Coordinator, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4488.

November

1 **Cardiac Arrhythmias: New Drugs** — Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

6-8 **Advanced Cardiac Life Support Provider Course** — University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

8 **Advanced Cardiac Life Support Instructor Course** — University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

8 **Dementia** — Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

14-15 **Workshop on the Use of the CO_2 Laser in ENT Surgery** — University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow, Kansas City, KS 66103. 913-588-4480.

15 **Advanced Trauma Life Support Refresher Course** — University of Kansas Medical Center. Contact: Mrs. Jody Scott, Dept. of Surgery, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-6124.

15-17 **Twelfth Annual Symposium: Anesthesia and the Geriatric Patient** — Washington University School of Medicine. Contact: Geriatric Symposium, Dept. of Anesthesiology, Washington University School of Medicine, 660 S. Euclid Ave., St. Louis 63110.

December

4 **Endocrinology and Metabolism** — Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

19-20 **Advanced Trauma Life Support Provider Course** — University of Kansas Medical Center. Contact: Mrs. Jody Scott, Dept. of Surgery, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-6124.

Physician's Recognition Awards

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Robert E. Fox, *St. Louis*
John V. King, *St. Louis*
Emmanuel A. Martirez, *Jennings*

New Members

- **Robert E. Barnett, M.D.,** Department of OB/GYN, Barnes Hospital Plaza, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Barnett received his preliminary education at Washburn University and his medical degree at Washington University in 1982. He is completing his residency training at Barnes Hospital in St. Louis. He specializes in obstetrics and gynecology.

- **Christopher C. Bowe, M.D.,** 82 Majestic Ct., Fenton 63026, has become a member of the St. Louis Metropolitan Medical Society. Dr. Bowe received his preliminary education at the University of Notre Dame and his medical degree at the University of Missouri-Columbia in 1981. He completed his residency training at the University of Iowa Hospitals and Clinics. He specializes in internal medicine.

- **Peter K. Buchert, M.D.,** 3205 Lansing, Columbia 65205, has become a member of the Boone County Medical Society. Dr. Buchert received his preliminary education at Amherst College and his medical degree at the University of Missouri-Columbia in 1979. He completed his residency training at the University of Missouri-Columbia. He specializes in orthopedic surgery.

- **Michael F. Burns, M.D.,** 6744 Clayton Rd., St. Louis 63117, has become a member of the St. Louis Metropolitan Medical Society. Dr. Burns received his preliminary education at the University of Santa Clara and his medical degree at St. Louis University in 1979. He is completing his residency training at the Ochsner Foundation Hospital, New Orleans, La., He specializes in orthopedic surgery.

- **Benedict D'Souza, M.D.,** 12138 Preston Park Lane, St. Louis 63146, has become a member of the St. Louis Metropolitan Medical Society. Dr. D'Souza received his preliminary education at St. Aloysius College and his medical degree at Karnatak Medical College in 11974. He completed his residency training at St. Louis University. He specializes in pathology.

- **Mo Hong Duong, M.D.,** Ellis Fischel State Cancer Hospital, 115 Business Loop 70 West, Columbia 65201 has become a member of the Boone County Medical Society. Dr. Duong received his preliminary education at the University of Hanoi and his medical degree at the University of Bordeaux in 1956. He completed his residency training at the University of Missouri-Columbia. He specializes in pathology.

- **James H. Early, M.D.,** 2013 Winchester Dr., Columbia 65202, has become a member of Boone County Medical Society. Dr. Early received his preliminary education at North Texas State University and his medical degree at North Texas State University in 1984. He is completing his residency training at the University of Missouri-Columbia. He specializes in general surgery.

- **Juergen G. Eisermann, M.D.,** 1870 Dougherty Estates Dr., St. Louis 63011, has become a member of the St. Louis Metropolitan Medical Society. Dr. Eisermann received his preliminary education at the University of Munich and his medical degree at Ludwig Maximiliams-Universitat Munchen in 1980. He is completing his residency training at Barnes Hospital, St. Louis. He specializes in obstetrics and gynecology.

- **Michael G. Guignon, M.D.,** 7844 Sunray Lane, St. Louis 63123, has become a member of the St. Louis Metropolitan Medical Society. Dr. Guignon received his preliminary education at Rockhurst College and his medical degree at St. Louis University in 1982. He is completing his residency training at St. Louis University. He specializes in urology.

- **Jonathan Q. C. Hall, M.D.,** 3316 Russell Blvd., Apt. 6, St. Louis 63104, has become a memer of the St. Louis Metropolitan Medical Society. Dr. Hall received his preliminary education at Amherst College and his medical degree at Brown University in 1980. He completed his residency training at St. Louis University. He specializes in neurology.

- **Michael B. Huggins, M.D.,** 4960 Audubon Ave., St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Huggins received his preliminary education at Davidson College and his medical degree at the University of North Carolina in 1981. He is completing his residency training at Barnes Hospital, St. Louis. He specializes in general surgery.

- **James M. Lynch, M.D.,** 5535 Delmar Blvd., St. Louis 63112, has become a member of the St. Louis Metropolitan Medical Society. Dr. Lynch received his preliminary education at the University of Florida and his medical degree at the University of Santiago in 1984. He is completing his residency training at St. Luke's Hospital, St. Louis. He specializes in internal medicine.

- **Joyce E. Marre, M.D.,** 3415 Bridgeland Dr., Bridgeton 63044, has become a member of the St. Louis Metropolitan Medical Society. Dr. Marre received her preliminary education at the University of Louisville and her medical degree at the University of Louisville in 1980. She completed her residency training at St. Louis University Hospital. She specializes in obstetrics and gynecology.

- **William F. Maule, M.D.,** Department of Medicine, University of Missouri-Columbia, Columbia 65212, has become a member of the Boone County Medical Society. Dr. Maule received his preliminary education at Texas A & M University and his medical degree at the University of Texas in 1979. He completed his residency training at the University of Missouri-Columbia. He specializes in internal medicine and gastroenterology.

- **James L. Molchan, M.D.,** 1500 N. Oakland, P. O. Box 507, Bolivar 65613, has become a member of the Dallas-Hickory-Polk-Dade County Medical Society. Dr. Molchan received his preliminary education at Regis College and his medical degree at St. Louis University in 1963. He completed his residency training at Veterans Administration Medical Center, Des Moines, Iowa. Dr. Molchan specializes in general surgery.

- **Ronald F. Morley, D.O.,** 915 Leslie Blvd., Suite E, Jefferson City 65101, has become a member of the Cole County Medical Society. Dr. Morley received his preliminary education at Temple University and his osteopathic degree at Kirksville College of Osteopathic Medicine in 1972. He completed his residency training at Normandy Osteopathic Hospital, St. Louis. Dr. Morley specializes in anesthesiology.

■ **Martin A. Morse, M.D.,** 1745 Canary Cove, St. Louis 63144, has become a member of the St. Louis Metropolitan Medical Society. Dr. Morse received his preliminary education at Duke University and his medical degree at Duke University in 1983. He is completing his residency training at Barnes Hospital, St. Louis. He specializes in general surgery.

■ **Jon R. Mundall, M.D.,** 423 E. Logan, Moberly 65270, has become a member of the Charitan-Macon-Monroe-Randolph County Medical Society. Dr. Mundall received his preliminary education at Loma Linda University and his medical degree at Loma Linda University in 1973. He completed his internship at R. E. Thomason General Hospital, El Paso, Tx. He specializes in general practice.

■ **Scott B. Mutchler, M.D.,** 1235 E. Cherokee, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Mutchler received his preliminary education at the University of Miami and his medical degree at the University of Miami in 1976. He completed his residency at Jackson Memorial Hospital, Miami, Fla. He specializes in pediatrics, neonatal and pediatric critical care.

■ **Jose A. Ramirez, M.D.,** 933 Concordia Lane, St. Louis 63105, has become a member of the St. Louis Metropolitan Medical Society. Dr. Ramirez received his preliminary education at Fletcher College and his medical degree at the University of San Carlos in 1981. He is completing his residency training at St. Mary's Hospital, St. Louis. He specializes in internal medicine.

■ **Krishnarao V. Rednam, M.D.,** 135 W. Adams, Kirkwood 63122, has become a member of the St. Louis Metropolitan Medical Society. Dr. Rednam received his preliminary education at St. Anthony and his medical degree at Andhra Medical College in 1973. He completed his residency training at King George Hospital, India. He specializes in ophthalmology.

■ **Lisa B. Ring, M.D.,** 840 University Place, St. Louis 63132, has become a member of the St. Louis Metropolitan Medical Society. Dr. Ring received her preliminary education at Washington University and her medical degree at Washington University in 1980. She is completing her residency training at Barnes Hospital, St. Louis. She specializes in dermatology.

■ **James L. Rutherford, M.D.,** 5574 Pershing Ave., #34, St. Louis 63112, has become a member of the St. Louis Metropolitan Medical Society. Dr. Rutherford received his preliminary education at Drake University and his medical degree at the University of Iowa in 1980. He completed his residency training at Washington University, St. Louis. He specializes in psychiatry.

■ **Fred W. Schekorra, D.O.,** 915 Leslie, Suite E, Jefferson City 65101, has become a member of the Cole County Medical Society. Dr. Schekorra received his preliminary education at Northeast State University and his osteopathic degree at Kirksville College of Osteopathic Medicine in 1960. He completed his residency training at Kirksville Osteopathic Health Center. He specializes in anesthesiology.

■ **Rand W. Sommer, M.D.,** 1419 Hawthorne Pl., St. Louis 63117, has become a member of the St. Louis Metropolitan Medical Society. Dr. Sommer received his preliminary education at Davidson College and his medical degree at Washington University in 1980. He completed his residency training at Washington University. He specializes in internal medicine and rheumatology.

■ **William R. Truitt, M.D.,** 1235 E. Cherokee, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Truitt received his preliminary education at Michigan State University and his medical degree at State University of New York in 1966. He completed his residency training at Presbyterian Medical Center, Denver, Colo. He specializes in emergency medicine.

■ **Mark E. Weaver, M.D.,** 2453 Remington Lane, St. Louis 63144, has become a member of the St. Louis Metropolitan Medical Society. Dr. Weaver received his preliminary education at the University of Arkansas and his medical degree at the University of Arkansas in 1981. He is completing his residency training at Barnes Hospital, St. Louis. He specializes in anesthesiology.

■ **Terry D. Weiss, M.D.,** 522 N. New Ballas Rd., St. Louis 63141, has become a member of the St. Louis Metropolitan Medical Society. Dr. Weiss received his preliminary education at Washington University and his medical degree at St. Louis University in 1966. He completed his residency training at Indiana University Hospitals. He specializes in internal medicine and rheumatology.

■ **Stephen J. Willig, M.D.,** 6150 Oakland Ave., St. Louis 63139, has become a member of the St. Louis Metropolitan Medical Society. Dr. Willig received his preliminary education at Vassar College and his medical degree at Louisiana State University in 1984. He is completing his residency training at Deaconess Hospital, St. Louis. He specializes in internal medicine.

■ **Jeffrey A. Wright, M.D.,** 24th and Gillham Rd., Kansas City 64108, has become a member of the Jackson County Medical Society. Dr. Wright received his baccalaureate and medical degree from the University of Missouri-Kansas City in 1978. He completed his residency training at Children's Mercy Hospital, Kansas City. He specializes in pediatrics.

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COMING

NEXT MONTH: Your 1985-86 MSMA Roster

In Memoriam

■ **Harvey E. Altheide, M.D.,** 6 Magnolia Dr., Ladue 63124; graduate of Washington University, 1931; member of St. Louis Metropolitan Medical Society; age 82; died March 30, 1985.

■ **James L. Chapel, M.D.,** 3428 Woodrail Terr., Columbia 65203; graduate of the University of Toronto, 1954; member of Boone County Medical Society; age 65; died May 27, 1985.

■ **Claude W. Cooper, M.D.,** 328 Chestnut, Thayer 65791; graduate of the University of Tennessee, 1932; member of South Central Counties Medical Society; age 76; died May 14, 1985.

■ **Henry Durst, M.D.,** 1407 Marbrook, Fulton 65251; graduate of Washington University, 1930; member of Callaway County Medical Society; age 77; died April 6, 1985.

■ **Carl H. Lindeman, M.D.,** 665 Skinker Blvd., St. Louis 63105; graduate of St. Louis University, 1925; member of St. Louis Metropolitan Medical Society; age 85; died April 14, 1985.

■ **Donald M. Schaffer, M.D.,** 1106 Kenwood, Kennett 63857; graduate of University of Missouri-Columbia, 1977; member of Dunklin County Medical Society; age 34, died April 10, 1985.

An Invitation . . .

The Editorial Board of *Missouri Medicine* invites the members of the Missouri State Medical Association to submit examples of their art work for publication on the cover of *Missouri Medicine.* Color photographs, preferably transparencies, as well as photographs of paintings, drawings, sculpture, ceramics, jewelry, etc. are all welcome. There is no limit as to subject, although pictures of Missouri or subjects topical to a month or season may have a slight advantage. Please submit entries to "Cover," *Missouri Medicine,* P.O. Box 1028, Jefferson City, MO 65102.

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James E. Davis, M.D. AMA Speaker of the House James E. Davis, M.D. was the keynote speaker for the First Session of the MSMA House of Delegates.

Congressman Alan Wheat. U.S. Rep. Wheat (D-Kansas City) addressed the Saturday morning PAC breakfast.

And they came by train. Several physicians and their spouses traveled to the Kansas City meeting from St. Louis via train car. The group, headed by John P. Roberts, M.D. (far left), enjoyed several hours of merriment as they traveled across state.

Reference Committees. The Reference Committee on Reports of Officers carefully considered the resolution on unifed membership. Members of the committee were (from left to right) Alfred Caruso, M.D., Stephen Vilmer, M.D., John H. Gladney, M.D., and Chairman Richard K. Danis, M.D.

Benefit Auction. Physicians and students alike bought tickets to the Annual Auxiliary Benefit Auction for AMA-ERF. This year the auction was better than ever with a special performance given by "On Call," a musical group of medical students from UMKC.

For one of our own. President James Stokes, M.D. presents the MSMA Citizenship and Community Service Award to A. J. Signorelli, M.D., founder of Faith Hospital in St. Louis. The award is to recognize an outstanding member of the MSMA.

Legislative Awards. Sen. Harry Wiggins, chairman of the Senate Public Health Committee, received an award from the Association for outstanding service to the citizens of Missouri. MSMA House Speaker Barbara Buchanan congratulated the senator for work well done. Dr. H. Peter Ekern (far right) also applauds the senator.

AMA-ERF funds. AMA President Polly Bowles handed over more than $46,000 in AMA-ERF donations to representatives of Missouri's four medical schools. Above, Dr. Frederick Peterson accepts a check on behalf of Washington University.

Showing off their best. It was a record year for exhibitors at the MSMA Convention. More than 70 businesses and corporations showed their wares and services to MSMA delegates.

Larry Piepergerdes, M.D. (right), was elected chairman of the MSMA Council. T. J. Cooper, M.D. (left) was elected vice chairman.

Barbara Buchanan, M.D., and Arlen Winsky, M.D., were re-elected speaker and vice speaker of the MSMA House of Delegates, respectively.

MSMA Councilors. (From left to right) R. V. Tompson, M.D., Second District; T. J. Cooper, M.D., Carol Williams, M.D., David Wilkinson, M.D., and William Huffaker, M.D., Third District; and William Richardson, M.D., Fourth District.

MSMA Councilors. (Back row, left to right) Francis M. Corry, M.D., Eighth District; A. J. Campbell, M.D., Sixth District; Melvin Kasten, M.D., Tenth District; and Kenneth Rall, M.D., Fifth District. (Front row, left to right) Larry Piepergerdes, M.D., and Dororthy Reister, M.D., Seventh District; and Chris Felton, student.

MSMA Vice Councilors. (Back row, left to right) Raymond J. Caffrey, M.D., Seventh District; Brad Freilich, student; Jerry Meyer, M.D., Sixth District; Carl Kruse, M.D., Second District; and J. Michael Conoyer, M.D., Fourth District. (Front row, left to right) William C. Shell, M.D., Tenth District; Jerry Murrell, M.D., Fifth District; and David Hall, M.D., Eighth District.

127th Annual Convention

MISSOURI STATE MEDICAL ASSOCIATION

House of Delegates

Hyatt Regency
Kansas City
April 11-14, 1985

FIRST SESSION

The First Session of the MSMA House of Delegates was called to order at 10:00 a.m., Thursday, April 11, 1985 by Speaker of the House Barbara Buchanan. The following officers and delegates were present during the 127th Annual Convention:

OFFICERS

President	James M. Stokes, *St. Louis*
President-Elect	Walter A. German, *Springfield*
Vice-President	Robert R. MacDonald, Jr., *St. Louis*
Vice-President	Max A. Heeb, *Sikeston*
Vice-President	Melvin M. Schwartz, *St. Louis*
Secretary	Berry Ivy, *Springfield*
Treasurer	Jay Meyer, *St. Louis*
Speaker of the House	Barbara Buchanan, *Kansas City*
Vice-Speaker of the House	Arlen D. Winsky, *Springfield*
Immediate Past-President	Ronald A. Youmans, *Kansas City*

COUNCILORS

1st District	Richard C. Hedges, *North Kansas City*
2nd District	Robert V. Tompson, *Moberly*
3rd District	Thomas J. Cooper, *St. Louis*
3rd District	Richard H. Fallon, *St. Louis*
3rd District	Carol F. Williams, *St. Louis*
3rd District	J. Otto Lottes, *St. Louis*
3rd District	Theodore L. Paletta, *St. Louis*
3rd District	Frederick D. Peterson, *St. Louis*
3rd District	David Wilkinson, *St. Louis*
4th District	William R. Richardson, *Union*
5th District	H. Peter Ekern, *Mexico*
5th District	Alan L. Braun, *Jefferson City*
6th District	A. J. Campbell, *Sedalia*
7th District	Larry G. Piepergerdes, *Kansas City*
7th District	Robert T. Gibbons, *Shawnee Mission, KS*
7th District	Dorothy Reister, *Shawnee Mission, KS*
7th District	Braham J. Geha, *Kansas City*
8th District	Marvin A. Singleton, *Joplin*
8th District	Francis M. Corry, *Springfield*
9th District	Jack Wiles, *West Plains*
10th District	Melvin C. Kasten, *Cape Girardeau*
Student Councilor	Mary Colette Schmidt, *Columbia*

VICE COUNCILORS

1st District	Gary A. Dyer, *St. Joseph*
2nd District	Carl R. Kruse, *Palmyra*
4th District	Paul H. Rother, *St. Charles*
5th District	Kenneth L. Rall, *Columbia*
6th District	Jerry Meyer, *Concordia*
8th District	David W. Hall, *Rogersville*
10th District	William C. Shell, *Sikeston*
Student Vice-Councilor	Chris Felton, *St. Louis*

DELEGATES

First District

Andrew	Warren C. Baker, *Savannah*
Buchanan	Martin H. Christ, *St. Joseph*
Buchanan	Gary A. Dyer, *St. Joseph*
Buchanan	Charles N. Mullican, *St. Joseph*
Buchanan	Donald E. Sklenar, *St. Joseph*
Buchanan	Thomas M. Sodeman, *St. Joseph*
Buchanan	Eugene C. Wolanski, *St. Joseph*
Clay-Platte	Richard P. Bowles, *Liberty*
Clay-Platte	Donald A. Fakhoury, *Kansas City*
Clay-Platte	Stephen A. McCray, N. *Kansas City*
Clay-Platte	Carl M. Myers, *Platte City*
Clay-Platte	William D. Soper, *Liberty*
Clay-Platte	Stephen E. Vilmer, *Kansas City*
Grand River	Albert D. Cross, *Trenton*
Grand River	John R. Dixon, *Brookfield*
Grand River	Edward E. Nixon, *Gallatin*
Northwest	Ed Bare, *Tarkio*
Northwest	R. E. Dunshee, *Maryville*
Northwest	Patrick B. Harr, *Maryville*

Second District

Chariton-Macon-Monroe-Randolph	F. A. Barnett, *Paris*
Chariton-Macon-Monroe-Randolph	James E. Campbell, *Macon*
Chariton-Macon-Monroe-Randolph	C. C Cohrs, *Moberly*
Chariton-Macon-Monroe-Randolph	J. Will Fleming, *Moberly*
Chariton-Macon-Monroe-Randolph	Kenneth Kays, *Moberly*
Northeast	H. P. Jayanadaiah, *Hannibal*
Northeast	Carl Kruse, *Palmyra*

Third District

St. Louis	Luis B. Anglo, *St. Louis*
St. Louis	William H. Bailey, *St. Louis*
St. Louis	M. Roman Banton, *St. Louis*
St. Louis	William C. Banton, *St. Louis*
St. Louis	Gerald N. Bart, *St. Louis*
St. Louis	Paul J. Bettonville, *St. Louis*
St. Louis	Ralph L. Biddy, *St. Louis*
St. Louis	James G. Blythe, *St. Louis*
St. Louis	George M. Bohigian, *St. Louis*
St. Louis	Robert L. Bolton, *St. Louis*

St. Louis	Harold H. Bowerman, *St. Louis*
St. Louis	Gerard M. Callaghan, *St. Louis*
St. Louis	Mary E. Case, *St. Louis*
St. Louis	Harry O. Cole, *St. Louis*
St. Louis	Richard J. Dames, *St. Louis*
St. Louis	James W. Debnam, Jr., *St. Louis*
St. Louis	Jonathan D. Dehner, *St. Louis*
St. Louis	Linda A. Fisher, *St. Louis*
St. Louis	George D. Flanigan, *St. Louis*
St. Louis	August W. Geise, *St. Louis*
St. Louis	Lance Gerowin, *St. Louis*
St. Louis	John H. Gladney, *St. Louis*
St. Louis	Alicia D. Gonzalez, *St. Louis*
St. Louis	E. Richard Graviss, *St. Louis*
St. Louis	James J. Hasenmueller, *St. Louis*
St. Louis	Vencel Hollo, *St. Louis*
St. Louis	William H. Huffaker, *St. Louis*
St. Louis	Yasuo Ishida, *St. Louis*
St. Louis	Jack Kayes, *St. Louis*
St. Louis	Jerome L'Ecuyer, *St. Louis*
St. Louis	William F. Leightner, *St. Louis*
St. Louis	Francis X. Lieb, *St. Louis*
St. Louis	Robert R. MacDonald, Jr., *St. Louis*
St. Louis	Maria E. Manion, *St. Louis*
St. Louis	George E. Mendelsohn, *St. Louis*
St. Louis	Jay Meyer, *St. Louis*
St. Louis	Melvin E. Meyer, *St. Louis*
St. Louis	Jerry N. Middleton, *St. Louis*
St. Louis	Arturo C. Montes, *St. Louis*
St. Louis	Gerald W. Moritz, *St. Louis*
St. Louis	David L. Ohlms, *St. Louis*
St. Louis	Henry D. Onken, *St. Louis*
St. Louis	Leopoldo P. Pardo, *St. Louis*
St. Louis	Lourdes Santos-Pardo, *St. Louis*
St. Louis	David E. Perkins, *St. Louis*
St. Louis	Paul J. Petruska, *St. Louis*
St. Louis	Bhaskara M. Ponnuru, *St. Louis*
St. Louis	Richard T. Quick, *St. Louis*
St. Louis	James C. Redington, Jr., *St. Louis*
St. Louis	David M. Reisler, *St. Louis*
St. Louis	Frank O. Richards, *St. Louis*
St. Louis	Hubert A. Ritter, *St. Louis*
St. Louis	John P. Roberts, *St. Louis*
St. Louis	Jo-Ellyn M. Ryall, *St. Louis*
St. Louis	M. L. Salmon, *St. Louis*
St. Louis	William F. Sasser, *St. Louis*
St. Louis	Edwin H. Schmidt, *St. Louis*
St. Louis	Jeffrey I. Schulman, *St. Louis*
St. Louis	Melvin Schwartz, *St. Louis*
St. Louis	A. J. Signorelli, *St. Louis*
St. Louis	William I. Stryker, *St. Louis*
St. Louis	Allen F. Tess, *St. Louis*
St. Louis	George E. Thoma, *St. Louis*
St. Louis	J. Regan Thomas, *St. Louis*
St. Louis	Donald L. Thurston, *St. Louis*
St. Louis	Dolores R. Tucker, *St. Louis*
St. Louis	George L. Tucker, *St. Louis*
St. Louis	Ernest T. Velasco, *St. Louis*
St. Louis	Leo L. Wacker, *St. Louis*
St. Louis	Harvey Walker, *St. Louis*
St. Louis	Bruce Walz, *St. Louis*
St. Louis	James Whittico, *St. Louis*

Fourth District

Franklin-Gasconade-Warren	John O'Connor, *Warrenton*
Franklin-Gasconade-Warren	Jim Shaw, *Hermann*
Franklin-Gasconade-Warren	Jim Turner, *Washington*
St. Charles-Lincoln	J. Michael Conoyer, *St. Peters*
St. Charles-Lincoln	Robert Cusworth, *St. Charles*
St. Charles-Lincoln	Ed Damron, *Elsberry*
St. Charles-Lincoln	John Mentel, *St. Peters*
St. Charles-Lincoln	Paul Rother, *St. Charles*

Fifth District

Audrain	Leonard Davis, *Mexico*
Audrain	Steve Taylor, *Mexico*
Boone	William C. Allen, *Columbia*
Boone	Thomas Anderson, *Columbia*
Boone	Diane Brukardt, *Columbia*
Boone	Thomas Burns, *Columbia*
Boone	James Denninghoff, *Columbia*
Boone	George Eggers, *Columbia*
Boone	Richard Heimberger, *Columbia*
Boone	Ben Moranville, *Columbia*
Boone	George Nolph, *Columbia*
Boone	Kenneth Rall, *Columbia*
Boone	James Roller, *Columbia*
Boone	Gilbert Ross, *Columbia*
Boone	Hugh E. Stephenson, *Columbia*
Boone	Jerry Templer, *Columbia*
Callaway	Vernon Jackson, *Fulton*
Cole	James E. Allan, *Jefferson City*
Cole	Donald Miller, *Jefferson City*
Cole	Thomas Ryan, *Jefferson City*
Cole	David Scherr, *Jefferson City*
Lake of the Ozarks	Chris Fotopoulos, *Osage Beach*
Lake of the Ozarks	J. Loren Washburn, *Versailles*

Sixth District

Johnson	T. Reed Maxson, *Warrensburg*
Lafayette-Ray	George Davault, *Richmond*
Lafayette-Ray	William C. LaHue, *Lexington*
Pettis	William Cole, *Smithton*
Pettis	Robert Stockwood, *Sedalia*
West Central	Robert Magee, *Eldorado Springs*
West Central	R. John Torontow, *Nevada*
West Central	William Turner, *Nevada*

Seventh District

Jackson	Nancy Abdou, *Kansas City*
Jackson	L. Glenn Agee, *Kansas City*
Jackson	Ali Arbab, *Kansas City*
Jackson	William L. Bayer, *Kansas City*
Jackson	Steven Behrends, *Kansas City*
Jackson	Douglas B. Bogart, *Kansas City*
Jackson	Barbara N. Buchanan, *Kansas City*
Jackson	Raymond J. Caffrey, *Kansas City*
Jackson	John Campbell, *Kansas City*
Jackson	Alfred Caruso, *Kansas City*
Jackson	M. Asghar Chaudhary, *Kansas City*
Jackson	Donna Childs, *Kansas City*
Jackson	Mary C. Colglazier, *Kansas City*
Jackson	Calvin Curts, *Kansas City*
Jackson	William Dorzab, *Kansas City*
Jackson	Calvin E. Engelman, *Kansas City*
Jackson	Chester Fee, *Kansas City*
Jackson	Curtis U. Franklin, *Kansas City*
Jackson	David L. Hagar, *Kansas City*
Jackson	Frederick W. Hahn, *Kansas City*
Jackson	John W. Hardy, *Kansas City*
Jackson	William R. Harrin, *Kansas City*
Jackson	James P. Hopkins, *Kansas City*
Jackson	Michael F. Hughes, *Kansas City*

Jackson	Richard L. Johnson, *Kansas City*
Jackson	Bernard Judy, *Kansas City*
Jackson	Harold Keairnes, *Kansas City*
Jackson	Pierre Keitges, *Kansas City*
Jackson	Forrest H. Kendall, *Kansas City*
Jackson	Cecile Khoury, *Kansas City*
Jackson	Kenneth R. Kopp, *Kansas City*
Jackson	King Y. Lee, *Kansas City*
Jackson	R. S. Long, *Kansas City*
Jackson	Michael Loren, *Kansas City*
Jackson	Gamaliel Lotuaco, *Kansas City*
Jackson	William J. Medlicott, *Kansas City*
Jackson	R. B. Michelson, *Kansas City*
Jackson	Mark C. Myron, *Kansas City*
Jackson	George K. Parkins, *Kansas City*
Jackson	Donald A. Potts, *Kansas City*
Jackson	John H. Renner, *Kansas City*
Jackson	Carl D. Siegel, *Kansas City*
Jackson	Shadrach Smith, *Kansas City*
Jackson	Carl F. Strauss, *Kansas City*
Jackson	Nalini Tella, *Kansas City*
Jackson	Elias M. Throne, *Kansas City*
Jackson	George Volk, *Kansas City*
Jackson	Marcia Zinn, *Kansas City*

Eighth District

Barton	Alvin R. Cain, *Lamar*
Greene	A. A. Ancheta, *Springfield*
Greene	Charles Ash, *Springfield*
Greene	Floyd Barnhill, *Springfield*
Greene	M. S. Clarke, *Springfield*
Greene	William Clary, *Springfield*
Greene	Darrel Domann, *Springfield*
Greene	Michael Gentry, *Springfield*
Greene	Duane Hellam, *Springfield*
Greene	H. B. Ivy, *Springfield*
Greene	Don Menchetti, *Springfield*
Greene	Stanley S. Peterson, *Springfield*
Greene	Ramon Shane, *Springfield*
Greene	Dan Sullivan, *Springfield*
Greene	Thomas Tombridge, *Springfield*
Greene	Norman Wall, *Springfield*
Greene	James Wolfe, *Springfield*
Jasper	Richard Cohle, *Carthage*
Jasper	Walter Dandridge, *Joplin*
Jasper	Herbert K. Dixon, *Joplin*
Jasper	Adolph Mueller, *Joplin*
Jasper	Carl Pearman, *Joplin*
Jasper	Robert Willcoxon, *Joplin*
Ozarks	Paul B. Anderson, *Neosho*
Ozarks	Andres G. Apostol, *Monett*
Ozarks	J. L. Bizek, *Aurora*
Tri-Lakes	T. L. Huffman, *Branson*
Tri-Lakes	Perry Hunsley, *Branson*
Webster	T. M. Macdonnell, *Marshfield*

Ninth District

Mid-Missouri	Hugh Bartlett, *Rolla*
Mid-Missouri	Neal Grannemann, *Rolla*
South Central	James Hasek, *Mountain Grove*
South Central	Michael Moore, *West Plains*
South Central	Joe Wall, *Houston*

Tenth District

Butler-Wayne-Ripley-Carter	Gene H. Leroux, *Doniphan*
Butler-Wayne-Ripley-Carter	T. E. Ruff, *Poplar Bluff*
Butler-Wayne-Ripley-Carter	Kirby Turner, *Poplar Bluff*
Cape Girardeau	Jean Chapman, *Cape Girardeau*
Cape Girardeau	Charles DeFelice, *Cape Girardeau*
Cape Girardeau	Theodore Glenn, *Cape Girardeau*
Cape Girardeau	R. L. Kies, *Cape Girardeau*
Cape Girardeau	Thomas C. Sparkman, *Cape Girardeau*
Dunklin	Nicholas Robinson, *Kennett*
Jefferson	N. K. Datta, *Crystal City*
Jefferson	Martha Reed, *DeSoto*
Perry-St. Genevieve	Job Pontillas, *Perryville*
SEMO	Donald Cento, *Sikeston*
SEMO	Aziz Mahboubi, *Sikeston*
SEMO	William Shell, *Sikeston*

DELEGATES-AT-LARGE

Barbara Buchanan, *Kansas City*, Speaker
Arlen D. Winsky, *Springfield*, Vice Speaker

Past-Presidents

Richard V. Bradley, *St. Louis*
R. Allen Chandler, *Kansas City*
E. T. Hansbrough, *Poplar Bluff*
Howard J. McAlhany, *Springfield*
Andrew McCanse, *Kansas City*
John N. Martin, *St. Joseph*
John I. Matthews, *Jefferson City*
Byron M. Stuart, *Boonville*
Ronald A. Youmans, *Kansas City*

Medical School Deans

William D. Bradshaw, *University of Missouri-Columbia*
Harry Jonas, *University of Missouri-Kansas City*
William Stoneman, *St. Louis University*

STUDENT DELEGATES

Mr. Carlos Buznego, *Washington University*
Mr. Chris Felton, *St. Louis University*
Mr. Charles Fisher, *University of Missouri-Columbia*
Mr. Brad Freilich, *University of Missouri-Kansas City*
Mr. Michael Funderburk, *University of Missouri-Kansas City*
Mr. David Jick, *Washington University*
Mr. Jeff Tedrow, *University of Missouri-Columbia*
Mr. Jeff Wadley, *St. Louis University*

The Speaker introduced James M. Stokes, M.D., president; Walter A. German, M.D., president-elect; and Mrs. Richard Bowles, president of the Auxiliary. Dr. Stokes and Mrs. Bowles addressed the House. Their remarks are published in this issue, beginning on page 375.

Mrs. Bowles presented AMA-ERF checks to Missouri's four medical schools: Washington University, $8,068.87 (unrestricted funds) and $3,691.21 (restricted funds); University of Missouri-Columbia, $8,463.51 (unrestricted funds) and $2,706.25 (restricted funds); St. Louis University, $13,369.31 (unrestricted funds), and $5,541.71 (restricted funds); and the University of Missouri-Kansas City, $2,623.88 (unrestricted funds), and $1,726.21 (restricted funds).

Mrs. Bowles then introduced Mrs. William R. McPhee of Kansas City, president-elect of the AMA Auxiliary. Dr. Ekern, chairman of the MSMA Council, read a resolution honoring Mary Kay McPhee. Michael Funderburk, student delegate, read a courtesy resolution commending the MSMA and the Auxiliary for their support of the Missouri State Medical Foundation.

Dr. German then presented Mrs. McPhee with two pieces of luggage on behalf of the Association for which Mrs. McPhee expressed her appreciation.

President James Stokes announced the recipient of the 1985 MSMA Citizenship and Community Service Award, A. J. Signorelli, M.D. Dr. Signorelli, founder of Faith Hospital in St. Louis, has been recognized for his many achievements both here and abroad.

Dr. Stokes then introduced Dr. James Davis, Speaker of the AMA House of Delegates. Dr. Davis addressed the MSMA House of Delegates.

Dr. Jerome Thies presented the Report of the Missouri Patient Care Review Foundation to the House and Dr. Richard V. Bradley presented the report on MOMEDICO. Dr. John N. Martin presented the report on MMPAC.

Dr. Kirby Turner, past president of the Constitution and Bylaws Committee, read the Committee's Supplemental Report which would change the titles of the Association's executive staff. The report was referred to the Reference Committee on Constitution and Bylaws.

The Supplemental Report of the Council was referred to the Reference Committee on Reports of Officers.

Dr. Stokes announced the following names of the new Nominating Committee: First District, Pat Harr, Maryville; Second District, Carl Kruse, Palmyra; Third District, Harry Cole, St. Louis; Fourth District, Paul Rother, St. Charles; Fifth District, Diane Brukardt, Columbia; Sixth District, Jerry Meyer, Concordia; Seventh District, Bill Case, Kansas City; Eighth District, Stan Peterson, Springfield; Ninth District, Neal Grannemann, Rolla; Tenth District, Charles DeFelice, Cape Girardeau; and student nominee, Chris Felton, St. Louis.

The House of Delegates stood and observed a moment of silence in observance of those MSMA members who had died since the 1984 Annual Convention.

Speaker Buchanan referred to a "Memorandum to Executive Directors of State Medical Societies" and asked the House to write letters to their representative in Congress, especially Senator Danforth who is on the committee which will deal with the matter (physician fee freeze).

As new business, Dr. Floyd Barnhill introduced a late resolution regarding health insurance companies. The resolution was accepted, numbered 21 and referred to the Reference Committee on Resolutions.

Dr. William Bayer introduced a resolution regarding AIDS and HTLV-III Antibody Blood Testing. The resolution, sponsored by Jackson County, was accepted, numbered 22 and referred to the Reference Committee on Constitution and Bylaws.

Dr. Charles Ash introduced a late resolution from Greene County regarding the Impaired Physician Program. The resolution was accepted, numbered 23 and referred to the Reference Committee on Resolutions.

Dr. Harry Cole introduced three late resolutions from the St. Louis Metropolitan Medical Society regarding 1) external performance audit of the Missouri Patient Care Review Foundation; 2) new waiting period for pre-existing illnesses; and 3) legislative/regulatory remedies for alternative health delivery systems. The resolutions were accepted, numbered 24-26, respectively, and referred to Reference Committees.

Dr. Paul Bettonville introduced two late resolutions from St. Louis Metropolitan Medical Society regarding preadmission certification by organizations such as Missouri Patient Care Review Foundation and regarding DRGs for hospital reimbursement. These resolutions did not receive the needed two-thirds vote and were not accepted as business of the House.

Dr. Carl Myers introduced a late resolution from tthe Clay-Platte County Medical Society regarding medical malpractice liability. It was accepted, numbered 27 and referred to the Reference Committee on Resolutions.

Having no further business, the Speaker adjourned the First Session of the MSMA House of Delegates.

SECOND SESSION

The Second Session of the House of Deleates was called to order at 4 p.m., Friday, April 12, 1985 by Speaker Barbara Buchanan.

Dr. Howard McAlhany, chairman of the Committee on Credentials, reported that 10 officers, 21 councilors and 236 delegates were present and constituted a quorum.

Dr. James Stokes presented awards of appreciation to two Missouri legislators: Senator Harry Wiggins and Representative Gladys Marriott.

Speaker Buchanan called on Dr. Harry Cole for the report of the Nominating Committee. Dr. Cole reported the Committee's recommendations: For Vice Presidents, David Hall, Paul Rother and Forrest Kendall; for AMA Delegates, Melvin C. Kasten and Andrew McCanse; for AMA Alternate Delegates, Marvin A. Singleton and Vernon H. Balster; for Speaker of the House, Barbara Buchanan; and for Vice Speaker, Arlen Winsky.

Reference Committee on Constitution and Bylaws

Speaker Buchanan called on Dr. Herb Dixon, Chairman of the Reference Committee on Constitution and Bylaws to give his committee's report. Dr. Dixon reported that the Committee recommended the adoption of Report A of the Committee on Constitution and Bylaws, with minor editorial changes. After lengthy discussion, the House voted to send the Report back to the Committee and the staff for rewording and then to vote on it during the Third Session on Sunday.

Dr. Dixon reported that the Committee recommended the adoption of Reports B and C of the Committee on Constitution and Bylaws. Both reports were adopted by the House.

Dr. Dixon suggested that the Report of the Committee on Legislative Affairs was must reading for all delegates and commended Dr. Jack Matthews for the outstanding contributions and numerous sacrifices he makes annually to represent the MSMA before the Missouri General Assembly. The report was adopted.

House action on the following resolutions are reported in the section, "Resolutions," on pages 367-370.

Resolution 1. Offices in MSMA and AMA
Resolution 8. Medical Control of Emergency Services
Resolution 9. Continuing Study of Dioxin
Resolution 13. Dioxin Update
Resolution 22. AIDS and HTLV-III Antibody Blood Testing

Reference Committee on Reports of Officers

Dr. Richard Danis, chairman of Reference Committee on Reports of Officers, reported the following items were placed on the Consent Calendar:

1. Report of the President
2. Report of the MSMA Auxiliary President
3. Report of the Secretary
4. Report of the Treasurer, MSMA Financial Statement
5. Report of the Executive Secretary

6. Council Minutes of April 1, 1984; June 3, 1984; August 24, 1984; December 15, 1984; February 2, 1985 and April 10, 1985
7. Report of the Missouri State Medical Foundation, MSMF Financial Statement
8. Report of the Committee on Planning
9. Report of the Commission on Public Affairs
10. Report of the Committee on Publication
11. Report of the Commission on Medical-Legal Affairs
12. Report of the Judicial Council

There being no objections, these items were adopted.

House action on the following resolutions are reported in the section, "Resolutions," on pages 367-370.

Resolution 2. Unified Membership
Resolution 6. Public Image of Physicians
Resolution 17. Support of Physician-Patient Relationship
Resolution 18. "Sunset" on MSMA Policies
Resolution 19. Fee Splitting
Resolution 20. Health Care Information Organization

Due to the late hour, the Speaker adjourned the Second Session of the MSMA House of Delegates.

THIRD SESSION

The Third Session of the House of Delegates was called to order by Speaker Barbara Buchanan at 7:30 a.m., Sunday, April 14.

Dr. Medlicott, chairman of the Credentials Committee, reported that 10 officers, 21 councilors, and 253 delegates were present and constitted a quorum.

Reference Committee on Constitution and Bylaws

Dr. Herb Dixon, chairman, presented changes in the wording of Report A.

Reference Committee on Resolutions

Dr. Fred Hahn, chairman, reported the following items were placed on the Consent Calendar:

1. Report of the Commission on Medical Economics, Third Party Medicine, and Governmental Relations.
2. Report of the Action Committee to Negotiate with Third Parties and Hospitals
3. Report of the Commission on Continuing Education and Health Manpower
4. Report of the Committee on the Impaired Physician
5. Report of the Commission on Interspecialty Medicine
6. Resolution 7. Use of Seat Belts

There being no objections, the above items were adopted.

House actions on the following resolutions are reported in the section, "Resolutions," on pages 367-370.

Resolution 3. Work of Action Committee with Hospitals and Medical Staffs
Resolution 4. Hospital Medical Staff
Resolution 5. Physician Education on Foundation Review Program
Resolution 10. Reporting Child Abusers
Resolution 11. Mentally Incompetent Hospitalization
Resolution 12. House Bill 40, Insurance, Mental Health Coverage
Resolution 14. Adequate Compensation for Rural Hospitals
Resolution 15. Professional Liability Coverage for Physicians Treating Medicare Patients
Resolution 16. Financial Assistance for Medicare Outpatients
Resolution 21. Health Insurance Companies
Resolution 23. The Impaired Physician
Resolution 24. External Performance Audit of Missouri Patient Care Review Foundation
Resolution 25. New Waiting Period for Pre-existing Illnesses
Resolution 26. Legislative Regulatory Remedies for Alternative Health Delivery Systems
Resolution 27. Medical Malpractice Liability

Vice Speaker Arlen Winsky announced the slate proposed by the Nomination Committee. For Delegates to the AMA, the Committee nominated Dr. Melvin Kasten and Dr. Andrew McCanse. With no other nominations from the floor, Drs. Kasten and McCanse were elected.

For the position of Alternate Delegate to the AMA, the Committee nominated Dr. Marvin Singleton and Dr. Vernon Balster. With no other nominations from the floor, Drs. Singleton and Balster were elected.

Vice Speaker Winsky recognized Dr. Hugh E. Stephenson, Jr., of Columbia, who nominated Dr. H. Peter Ekern of Mexico as president-elect of the Missouri State Medical Association. The nomination was seconded by Dr. Tom MacDonnell of Marshfield, Dr. Andrew McCanse of Kansas City, Dr. Carol Williams of Kansas City, and Dr. Robert Tompson of Moberly.

Dr. Ekern was elected president-elect by unanimous consent and was escorted to the podium where he thanked the delegates for their confidence and pledged "to continue the finest traditions of your past presidents in promoting better medicine for all Missourians."

Dr. Winsky presented the following slate of officers for 1985-1986:

Vice-President	Dr. David Hall, Rogersville
Vice-President	Dr. Paul Rother, St. Charles
Vice-President	Dr. Forrest Kendall, Kansas City
Speaker	Dr. Barbara Buchanan, Kansas City
Vice Speaker	Dr. Arlen Winsky, Springfield

Dr. Berry Ivy, secretary, announced that the following councilors and vice councilors had been elected:

Second District

Councilor	Dr. Robert V. Tompson, Moberly
Vice Councilor	Dr. Carl Kruse, Palmyra

Third District

Councilor	Dr. Thomas J. Cooper
	Dr. Carol F. Williams
	Dr. David Wilkinson
	Dr. William Huffaker
Vice Councilor	Dr. Arturo Montes

Fourth District

Councilor	Dr. William R. Richardson
Vice Councilor	Dr. J. Michael Conoyer

Fifth District

Councilor	Dr. Kenneth Rall
Vice Councilor	Dr. Jerry Murrell

Sixth District

Councilor	Dr. A. J. Campbell
Vice Councilor	Dr. Jerry Meyer

Seventh District

Councilor	Dr. Dorothy Reister Dr. Larry Piepergerdes
Vice Councilor	Dr. Raymond Caffrey

Eighth District

Councilor	Dr. Francis M. Corry
Vice Councilor	Dr. David Hall

Tenth District

Councilor	Dr. Melvin Kasten
Vice Councilor	Dr. William Shell

Student

Councilor	Chris Felton
Vice Councilor	Brad Freilich

Vice Speaker Winsky asked the new officers, councilors and vice councilors to stand in front of the podium. They were administered the Oath of Office by Dr. Berry Ivy.

President Walter A. German, M.D., announced appointments to the 1985-1986 MSMA standing committees and commissions.

Committee on Constitution and Bylaws

S. D. Madduri, *Poplar Bluff*, Chairman
Linda Fischer, *St. Louis*
Douglas Bogart, *Kansas City*

Committee on the Impaired Physician

John Mihalevich, *Springfield*, Chairman
Carol Patterson, *Liberty*, advisory member
William Stryker, *St. Louis*, advisory member

Committee on Legislative Affairs

John Matthews, *Jefferson City*, Chairman
Peter Ekern, *Mexico*
Larry Piepergerdes, *Kansas City*
Donald Miller, *Jefferson City*
Marvin Singleton, *Joplin*
T. J. Cooper, *St. Louis*
Alan Braun, *Jefferson City*
Kenneth Rall, *Columbia*
Sandy Mitchell, *Kansas City*, Auxiliary ex-officio member

Committee on Planning

Robert R. MacDonald, Jr., *St. Louis*, Chairman
Charles M. Mullican, *St. Joseph*
Doug Paone, *Kansas City*

Committee on Continuing Education and Health Manpower

Gary A. Dyer, *St. Joseph*, Chairman
William H. Bradshaw, *Columbia*
Olga Blair, *St. Louis*
Victor Clever, *St. Charles*
H. Jayanandaiah, *Hannibal*

Commission on Medical Economics, Third-Party Medicine, and Governmental Relations

Richard Johnson, Jr., *Kansas City*, Chairman
George Flanigan, Jr., *St. Louis*
John Davidson, *St. Louis*
Joseph A. Kahn, *Sikeston*
Tom Stubbs, *West Plains*

Commission on Medical-Legal Affairs

Leonard Davis, *Mexico*, Chairman
Ronald Benson, *Springfield*
William Medlicott, *Kansas City*
David M. Reisler, *Chesterfield*
J. Michael Conoyer, *St. Peters*

Commission on Public Affairs

King Lee, *Kansas City*, Chairman
Carl Myers, *Platte City*
Barry J. Bass, *Salem*
Fritz A. Byrum, *St. Louis*
Jo-Ellen Ryall, *St. Louis*

Action Committee to Negotiate with Third Parties and Hospitals

Stanely S. Peterson, *Springfield*, Chairman
Marvin Singleton, *Joplin*
Ronald A. Youmans, *Kansas City*
Charles McGinty, *Cape Girardeau*
Fred D. Pitterson, *St. Louis*
Duane Hellman, *Springfield*

Judicial Council

Hugh E. Stephenson, Jr. (reappointed to 5-year term)

Commission of Interspecialty Medicine

Michael S. Clark, M.D., *Missouri State Orthopedic Association*, Chairman
Wayne B. Miles, M.D., *Missouri State Allergy Association*
Blaine Russell, D.O., *Missouri Society of Anesthesiology*
Gary A. Dyer, M.D., *Missouri Dermatological Society*
Roger Willcox, M.D., *Missouri Chapter, American College of Emergency Physicians*
James Campbell, M.D., *Missouri Academy of Family Physicians*
Stephen Hamburger, M.D., *Missouri Society of Internal Medicine*
Gregory Starks, M.D., *Missouri Section, American College of OB-GYN*
Joseph Giangiacomo, M.D., *Missouri Ophthalmological Society, Inc.*
Thomas Sodeman, M.D., *Missouri Society of Pathologists*
Charles Kelly, M.D., *Physical Medicine and Rehabilitation*
Richard T. Quick, M.D., *Missouri Psychiatric Association*
Joseph A. Pinkerton, Jr., M.D., *Missouri Chapter, American College of Surgeons*
Elbert P. Trulock, M.D., *Missouri Thoracic Society*
John T. Critchlow, M.D., *Missouri State Surgical Society*

Dr. Perry Cole, St. Louis, reported that the 1986 MSMA Annual Convention will be held in St. Louis, April 3-6, 1986. In addition, Dr. Cole invited the Association to hold its 1989 meeting in St. Louis. The Association accepted the invitation. The 1987 Annual Convention will be held at Tan-Tar-A, Lake of the Ozarks and the 1988 Convention will be held in Kansas City.

The Speaker adjourned the 127th Annual Conventiion of the MSMA House of Delegates.

This report of the 1985 MSMA Annual Convention is designed to provide each member with a concise but complete summary of the meeting and actions taken by the House of Delegates. The minutes of these meetings are available to members of the MSMA through the MSMA office in Jefferson City.

New
Motrin® 800 mg TABLETS
ibuprofen

Extra strength
Convenience
Economy

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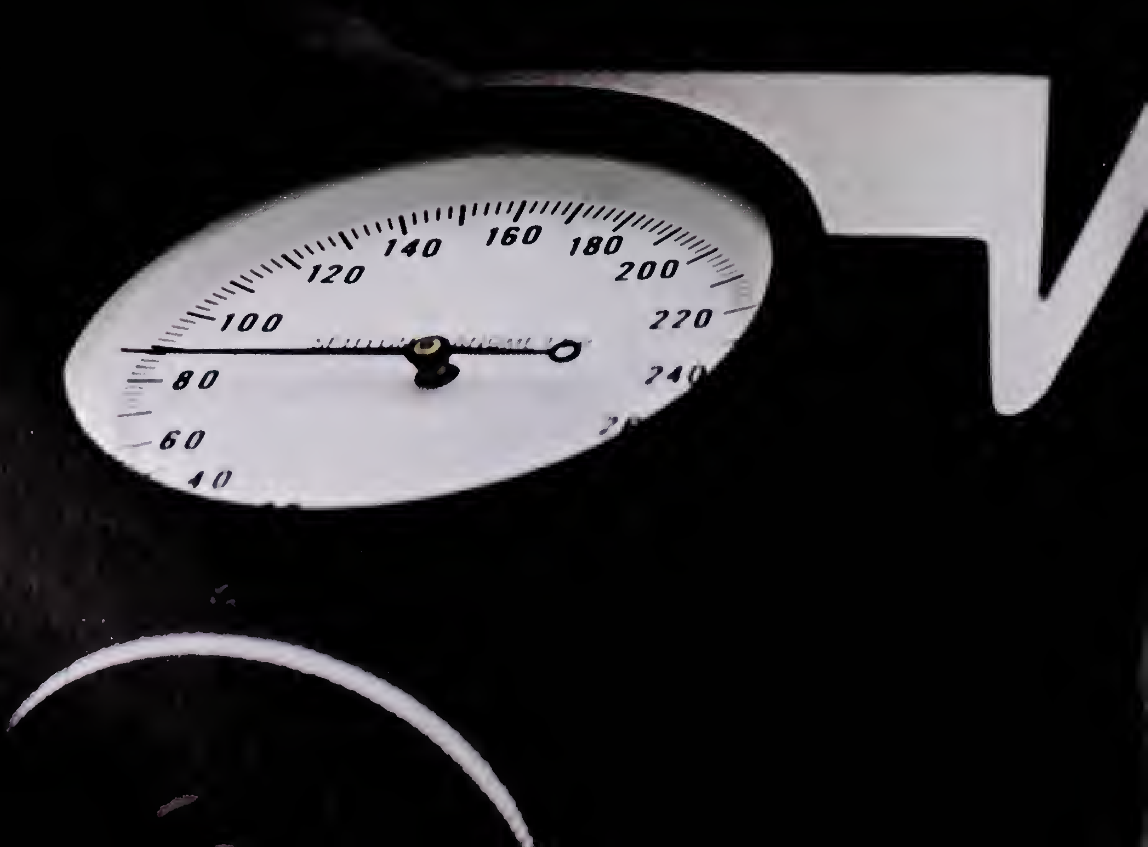
J-5491 June 1985

Right from the start in hypertension...



Once-daily INDERAL LA (propranolol HCl) for smooth blood pressure control without the potassium problems of diuretics

Once-daily INDERAL LA (propranolol HCl) avoids the risk of diuretic-induced ECG abnormalities due to hypokalemia.[1,2] In addition, INDERAL LA preserves potassium balance without additive agents or supplements while providing simple, well-tolerated therapy with broad cardiovascular benefits.

Once-daily INDERAL LA for the cardiovascular benefits of the world's leading beta blocker

Simply start with 80 mg once daily. Dosage may be increased to 120 mg to 160 mg once daily as needed to achieve additional control.

Like conventional INDERAL tablets, INDERAL LA should not be used in the presence of congestive heart failure, sinus bradycardia, heart block greater than first degree, and bronchial asthma.

For beta-1/beta-2 blockade

Once-daily

INDERAL LA

(PROPRANOLOL HCl)

80 mg 120 mg 160 mg

The appearance of these capsules is a registered trademark of Ayerst Laboratories

Please see brief summary of prescribing information on the next page for further details

For beta-1/beta-2 blockade Once-daily INDERAL® LA

(PROPRANOLOL HCl) LONG ACTING CAPSULES

The appearance of these capsules is a registered trademark of Ayerst Laboratories

BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR.)*
INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**
DESCRIPTION. Inderal LA is formulated to provide a sustained release of propranolol hydrochloride. Inderal LA is available as 80 mg, 120 mg, and 160 mg capsules.
CLINICAL PHARMACOLOGY. INDERAL is a nonselective beta-adrenergic receptor blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

The mechanism of the antihypertensive effect of INDERAL has not been established. Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output, (2) inhibition of renin release by the kidneys, and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain. Although total peripheral resistance may increase initially, it readjusts to or below the pretreatment level with chronic use. Effects on plasma volume appear to be minor and somewhat variable. INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients.

In angina pectoris, propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate, systolic blood pressure, and the velocity and extent of myocardial contraction. Propranolol may increase oxygen requirements by increasing left ventricular fiber length, end diastolic pressure and systolic ejection period. The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity.

In dosages greater than required for beta blockade, INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential. The significance of the membrane action in the treatment of arrhythmias is uncertain.

The mechanism of the antimigraine effect of propranolol has not been established. Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain.

Beta receptor blockade can be useful in conditions in which, because of pathologic or functional changes, sympathetic activity is detrimental to the patient. But there are also situations in which sympathetic stimulation is vital. For example, in patients with severely damaged hearts adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved. In the presence of AV block, greater than first degree, beta blockade may prevent the necessary facilitating effect of sympathetic activity on conduction. Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm.

Propranolol is not significantly dialyzable.
INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension; it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.
CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.
WARNINGS. CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually if possible).

> IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, e.g., dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case this resulted after an initial dose of 5 mg propranolol.
PRECAUTIONS. *General:* Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

Clinical Laboratory Tests: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

Pregnancy: Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers: INDERAL is excreted in human milk. Caution should be exercised when INDERAL is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.
ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: bradycardia; congestive heart failure; intensification of AV block; hypotension; paresthesia of hands; thrombocytopenic purpura; arterial insufficiency, usually of the Raynaud type.

Central Nervous System: lightheadedness; mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia; visual disturbances; hallucinations; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics.

Gastrointestinal: nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: bronchospasm.

Hematologic: agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.
DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL tablets to INDERAL LA capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg for mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three to seven day intervals until optimum response is obtained. Although individual patients may respond at any dosage level, the average optimum dosage appears to be 160 mg once daily. In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

MIGRAINE—*Dosage must be individualized.* The initial oral dose is 80 mg INDERAL LA once daily. The usual effective dose range is 160-240 mg once daily. The dosage may be increased gradually to achieve optimum migraine prophylaxis. If a satisfactory response is not obtained within four to six weeks after reaching the maximum dose, INDERAL LA therapy should be discontinued. It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.
PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use.

REFERENCES

1. Holland OB, Nixon JV, Kuhnert L: Diuretic-induced ventricular ectopic activity. *Am J Med* 1981;70:762-768. **2.** Holme I, Helgeland A, Hjermann I, et al: Treatment of mild hypertension with diuretics. The importance of ECG abnormalities in the Oslo study and in MRFIT. *JAMA* 1984;251:1298-1299.

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Resolutions

of the 127th MSMA House of Delegates

Resolution 1

Offices in MSMA and AMA

Introduced by the Butler-Wayne-Ripley-Carter County Medical Society

Resolved, that each physician in Missouri be limited to holding one "major office" in either the MSMA or the AMA, and be it further

Resolved, that the term "major office" include the following offices: MSMA President, MSMA President-Elect, MSMA Immediate Past-President, MSMA Treasurer, MSMA Secretary, MSMA Speaker of the House, MSMA Vice Speaker of the House, MSMA Councilor, MSMA Vice Councilor, Missouri Delegate to the AMA and Missouri Alternate Delegate to the AMA.

House Action: Not adopted.

Resolution 2

Unified Membership

Introduced by the MSMA Council

Resolved, that the Constitution and Bylaws of the MSMA be changed whereby all members of MSMA shall also be members of AMA unless they are already members of the American Osteopathic Association; and be it further

Resolved, that full and ample discussion of this important issue occur in each of the Councilor Districts and all of the component societies to the end that this action shall be brought before the House of Delegates during the first session of the 1986 Annual Convention of this Association.

House Action: The above amended resolution was adopted.

Resolution 3

Work of Action Committee with Hospitals and Medical Staffs

Introduced by the MSMA Action Committee to Negotiate with Third Parties and Hospitals

Resolved, that the MSMA publicize the functions and activities of the Action Committee to Negotiate with Third Parties and Hospitals and that medical staffs having problems with their hospitals contact the MSMA for assistance, and be it further

Resolved, that the MSMA develop a cadre of 20-25 physicians located throughout the state to assist in negotiating the anticipated increase of problems between hospitals and medical staffs that will occur in the near future.

House Action: Adopted.

Resolution 4

Hospital Medical Staff

Introduced by the MSMA Action Committee to Negotiate with Third Parties and Hospitals

Resolved, that MSMA medical staff members be reminded that the medical staff may be regarded as a largely autonomous entity with respect to both administrative matters and clinical decision-making, and be it further

Resolved, that MSMA medical staff members should, when appropriate, obtain separate legal counsel for their medical staff and not to depend on the hospital's counsel for legal assistance on matters concerning bylaws, rules and regulations.

House Action: The above substitute resolution was adopted.

Resolution 5

Physician Education on Foundation Review Program

Introduced by the St. Louis Metropolitan Medical Society

Resolved, that the Missouri State Medical Association ask that the data [from the Missouri Patient Care Review Foundation] be made available to Missouri physicians to insure that denials are not having a negative impact on quality of medical care for Missouri Medicare patients, and be it further

Resolved, that this information be made available for purposes of scientific education.

House Action: Adopted.

Resolution 6

Public Image of Physicians

Introduced by the St. Louis Metropolitan Medical Society

Resolved, that the MSMA in cooperation with its component societies develop and implement a plan for improving the public image of physicians, and be it further

Resolved, that this plan communicate with the Missouri citizens through contemporary news media a positive image of what organized medicine is doing for the public's health and explain medicine's role in cost effective medical care.

House Action: Referred to the MSMA Council.

Resolution 7

Use of Seat Belts

Introduced by the St. Louis Metropolitan Medical Society

Resolved, that the MSMA reaffirm the policy favoring passage of state laws requiring use of seat belts in motor vehicles, and be it further

Resolved, that the MSMA lend its efforts to support passage of legislation mandating seat belt use in motor vehicles.

House Action: Adopted.

Resolution 8

Medical Control of Emergency Services

Introduced by the St. Louis Metropolitan Medical Society

Resolved, that the Missouri State Medical Association wholly support the position of the Trauma Committee of the ACS and the ACEP with respect to medical control of EMT Services and strongly recommend that said medical directors meet certain criteria as follows:

1. Be familiar with the design and operation of prehospital EMS systems.
2. Be experienced in the prehospital emergency care of acutely ill injured patients.
3. Be actively involved and experienced in a) the emergency department management of acutely ill or injured patients; b) the training of basic and advanced life support prehospital personnel; c) the medical audit review, and critique of basic and advanced life support personnel, and d) the administrative and legislative processes affecting regional and/or state prehospital EMS systems, and be it further

Resolved, that the Missouri State Medical Association strongly recommends that said medical directors be members in good standing of either the ACS or ACEP and meet the attributes aforementioned or, in the event that the physician is not a member of the above professional groups, Missouri State Medical Association strongly recommends that he/she meet the above criteria, and be it finally

Resolved, that the Missouri State Medical Association recommends that in considering physicians for positions of medical director it be recognized that the aforementioned criteria will be more difficultly met outside the disciplines of trauma oriented surgery and emergency medicine, but that exceptions may exist.

House Action: Not adopted.

Resolution 9

Continuing Study on Dioxin

Introduced by the Greene County Medical Society

Resolved, that the AMA Council on Scientific Affairs' Panel on Toxic Substances be congratulated on this detailed continuing study on Dioxin (Report L in 1984 on *"Health Effects of Agent Orange and Related Polychlorinated Dioxin"*) with the request that they continue monitoring the multiple studies still in progress, and be it further

Resolved, that the current scientific information on Dioxin be as widely disseminated as possible through media available to the scientific community.

House Action: The above amended substitute resolution, considered with Resolution 13, was adopted.

Resolution 10

Reporting Child Abusers

Introduced by the Greene County Medical Society

Resolved, that the Missouri State Medical Association oppose the reporting of all child abusers that are undergoing psychiatric therapy, and be it further

Resolved, that the Missouri State Medical Association favor leaving the reporting to the discretion of the psychiatrist.

Action: The resolution was withdrawn by its sponsor.

Resolution 11

Mentally Incompetent Hospitalization

Introduced by the Greene County Medical Society

Resolved, that the Missouri State Medical Association urge that the length of hospitalization in which a guardian is free from obligation to petition the court for longer hospitalization be raised to twenty-one days.

House Action: Adopted.

Resolution 12

Insurance — Mental Health Coverage

Introduced by the Cape Girardeau County Area Medical Society

Resolved, that all entities providing comprehensive health insurance coverage in the State of Missouri be required to provide coverage for psychiatric illnesses equivalent to benefits for other medical and physical illnesses, and be it further

Resolved, that the Missouri State Medical Association contact each member of the Missouri General Assembly urging that the above Resolved be mandated by state law.

House Action: The above substitute resolution was adopted.

Resolution 13

Dioxin Update

Introduced by the St. Louis Metropolitan Medical Society

Resolved, that the current scientific information on dioxin be disseminated.

House Action: This resolution was considered with Resolution 9, "Continuing Study of Dioxin," which was adopted.

Resolution 14

Adequate Compensation for Rural Hospitals

Introduced by Mohammad N. Akhter, M.D.,
Boone County Medical Society

Resolved, that the Missouri State Medical Association take active steps and work with federal officials and the American Hospital Association to provide for adequate compensation for our rural hospitals, and be it further

Resolved, that this resolution be presented at the annual meeting of the House of Delegates of the American Medical Association.

House Action: Referred to the MSMA Council.

Resolution 15

Professional Liability Coverage for Physicians Treating Medicare Patients

Introduced by Mohammad Akhter, M.D.,
Boone County Medical Society

Resolved, that officials of MSMA meet with the Health Care Financing Administration and other administration officials to secure the same kind of coverage as is available to physicians working in federal programs or federal institutions such as VA hospitals or military hospitals for Missouri physicians who take care of Medicare patients, and be it further

Resolved, that copies of this resolution be forwarded to appropriate officials in the United States Congress, the United States Senate, and the American Medical Association.

House Action: Not adopted.

Resolution 16

Financial Assistance for Medicare Outpatients

Introduced by Mohammad Akhter, M.D.,
Boone County Medical Society

Resolved, that the Missouri State Medical Association ask HCFA to develop a mechanism to pay $30 to $40 for one night's stay for patients in a motel nearby the hospital or in a hospital limited stay bed (non-skilled nursing bed); and be it further

Resolved, that copies of this resolution be mailed to all

Missouri members of Congress and our senators; and be it further

Resolved, that the Missouri delegation submit this resolution to the American Medical Association House of Delegates this summer.

House Action: The above substitute resolution was not adopted.

Resolution 17

Support of Physician-Patient Relationship

Introduced by the Clay-Platte County Medical Society

Resolved, that the Missouri State Medical Association reaffirms its position supporting and advocating the primacy of the physician-patient relationship at all levels of medical care and opposing the intervention of social and legal factors into this relationship, and be it further

Resolved, that the Missouri State Medical Association assume a leadership role in attempting to develop legislative safeguards which will protect the primacy of the physician-patient relationship.

House Action: Referred to the MSMA Council.

Resolution 18

"Sunset" on MSMA Policies

Introduced by the Jackson County Medical Society

Resolved, that it be the policy of the Missouri State Medical Association that all official actions by the Association shall have a life of five years and that unless such actions are reviewed and formally renewed for an additional five years they shall become null and void, and be it further

Resolved, that the Council of the Missouri State Medical Association be instructed to begin reviewing all past official actions of the Association and present a report to the 1986 meeting of the MSMA House of Delegates recommending which actions should be rescinded and which should be renewed for a five year period, and be it further

Resolved, that the Council of the Missouri State Medical Association be instructed to develop a procedure whereby a five year review of official actions can be accomplished efficiently and effectively on an annual basis.

House Action: Adopted.

Resolution 19

Fee Splitting

Introduced by Richard P. Bowles, M.D.,
Clay-Platte County Medical Society

Resolved, that the Missouri State Medical Association reaffirm its supportive position of CURRENT OPINIONS OF THE JUDICIAL COUNCIL OF THE AMERICAN MEDICAL ASSOCIATION (1984 Edition) regarding fee splitting as being unethical, and be it further

Resolved, that the Missouri State Medical Association alert its members to the improper nature of such schemes.

House Action: The above substitute resolution was adopted.

Resolution 20

Health Care Information Organization

Introduced by Charles N. Mullican, M.D.,
Buchanan County Medical Society

Resolved, that the Missouri State Medical Association take the lead in promoting the establishment of a freestanding, not-for-profit health care information and policy organization which would serve to link:

1. Citizen values and ethical beliefs with the resource allocation decisions of health programs;
2. Academic research with real world service delivery problems;
3. Isolated data into broad conceptual "models" of the health care field; and
4. The stated goals of both public and private policies with their actual effectiveness.

House Action: Referred to the MSMA Council.

Resolution 21

Health Insurance Companies

Introduced by Keith LaFerrier, M.D.,
Greene County Medical Society

Resolved, that the MSMA take necessary measures to insure that insurance companies cease to communicate abusive and inappropriate language to patients regarding physician fee structures and services.

House Action: The above substitute resolution was adopted.

Resolution 22

AIDS and HTLV-III Antibody Blood Testing

Introduced by the Jackson County Medical Society

Resolved, that the MSMA contact the U.S. Department of Health and Human Services immediately with the request that the agency not proceed further on publishing the information on AIDS and HTLV-III Antibody Blood Testing found in the January 11, 1985 edition of MORBIDITY AND MORTALITY WEEKLY REPORT until the government has time to consider valid objection to the language therein, and be it further

Resolved, that this entire issue be referred to the MSMA Council to review additional information so the Association can develop an appropriate response to the AMA House of Delegates, Department of Health and Human Services, and in the time frame required by the government at the time of publication in the FEDERAL REGISTER, and be it further

Resolved, that the Association also urges the Department to permit blood collection centers to perform HTLV-III antibody testing for their own use, but to relieve the centers of any responsibility for supplying test results to test subjects until appropriate scientific knowledge is available.

House Action: The above amended substitute resolution was adopted.

Resolution 23

The Impaired Physician

Introduced by Warford B. Johnson, II, M.D.
Greene County Medical Society

Resolved, that the Committee on the Impaired Physician and the MSMA Council be directed to encourage the formation of regional Committees on Physician Health and Impairment, in order to:

1. Provide education and disseminate information to their respective medical communities regarding the problems of physician health and impairment, and
2. Act as extensions of the Committee on the Impaired Physician of the MSMA and to coordinate with that Committee to identify and document cases of physician impairment, provide interventional teams to address the impaired physician, and assist with appropriate follow-up, and be it further

Resolved, that the MSMA pursue with all possible dispatch the funding and hiring of a full-time Director of Physician Health and Impairment Programs to manage and coordinate the activities of the various state and regional physician health and impairment programs, in order to assure prompt and effective recognition and treatment of the impaired physician and to insure that our professional obligation to protect the public health be properly discharged.

House Action: Not adopted.

Resolution 24

External Performance Audit of the Missouri Patient Care Review Foundation

Introduced by the St. Louis Metropolitan Medical Society

Resolved, that the MSMA House of Delegates directs the MSMA Council to undertake an external performance audit of the Missouri Patient Care Review Foundation in order to obtain assurance that the Foundation will successfully fulfill its obligations under the federal contract in a timely and efficient fashion.

House Action: Referred to the MSMA Council with a fiscal note to request the Inspector General's office to conduct the audit at no cost to the Missouri Patient Care Review Foundation.

Resolution 25

New Waiting Period for Pre-existing Illnesses

Introduced by the St. Louis Metropolitan
Medical Society Council

Resolved, that the Missouri State Medical Association ask the legislature to pass a bill requiring health insurance carriers to waive the waiting period for pre-existing illnesses, diseases, afflictions, conditions and/or deformities for present employees who have already met that requirement if that health insurance carrier desires, proposes, or contracts with the company, business, or other type of insurance group to be their health insurance carrier, and be it further

Resolved, that the MSMA study the employee problem of new waiting period for pre-existing illness when the employer changes insurance companies, and be it further

Resolved, that the MSMA attempt to remedy this problem of new waiting periods for pre-existing illness through education, legislation, and/or regulation; and be it further

Resolved, that the MSMA recommend that all agents, brokers, and employers insofar as possible, not put employees in situations where a new waiting period for pre-existing illness exists unless the employee has the opportunity to waive that option.

House Action: Adopted.

Resolution 26

Legislative/Regulatory Remedies for Alternative Health Delivery Systems

Introduced by the St. Louis Metropolitan Medical Society

Resolved, that the MSMA House of Delegates direct the MSMA Council to search for appropriate legislative and regulatory remedies in order to assure the protection of the public interest. Specific areas of concern would be state regulation of health maintenance organizations, preferred provider organizations, and independent utilization review plans. Other areas for possible action would be measures for liensing and supervision, regulation of contractural relationships and provision for resolving contractural problems between such umbrella organizations and providers of health care.

House Action: Not adopted.

Resolution 27

Medical Malpractice Liability — A Solution

Introduced by the Clay-Platte County Medical Society

Resolved, that the Missouri State Medical Association support a Worker's Compensation-type approach to render uniform compensation for injuries sustained in medical malpractice action, and therefore be it

Resolved, that the Missouri State Medical Association sponsor legislation in the General Assembly that would embody this concept.

House Action: Referred to the MSMA Commission on Medical Legal Affairs.

This report of the 1985 MSMA Annual Convention is designed to provide each member with a concise, but complete, summary of the meetings and the actions taken by the House of Delegates. The minutes of these meetings are available to members of the MSMA from the MSMA office in Jefferson City.

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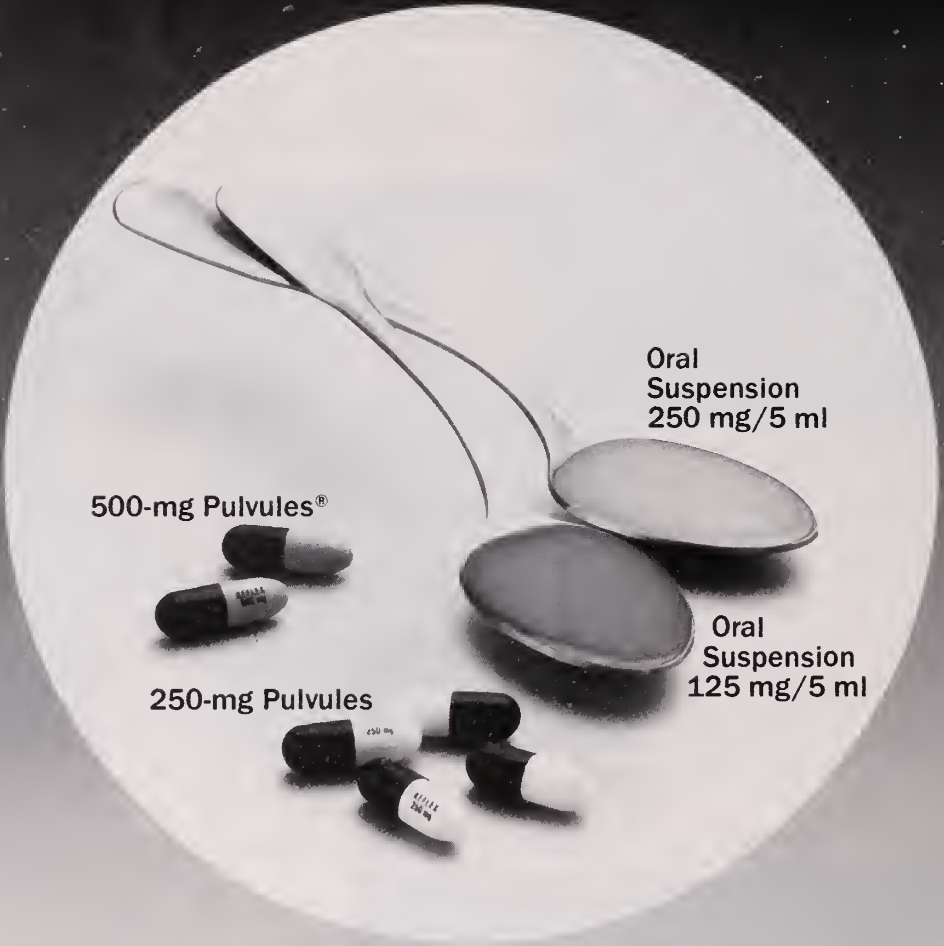
1985-1986 Officers

James Stokes, M.D., (left), received an award of appreciation from newly-installed President Walter A. German, M.D. at the Saturday evening inaugural.

MSMA President Walter A. German (left) and his wife, Taney, congratulated Chris Bohigian, new Auxiliary president, and her husband George, an AMA delegate.

Mary Kay McPhee (Mrs. William) received a gift set of luggage from Dr. German on behalf of the Association. The gift was to congratulate Mrs. McPhee on being elected president of the AMA Auxiliary. (She was installed as president of the AMA Auxiliary in June.)

Easy To Take



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President's Remarks

James M. Stokes, M.D.

Thank you for allowing me to represent the MSMA during the past year. All presidents acquire a different perspective after participating in the Council and other offices of the Association. It is humbling and impressive, for one sees true strengths arise from the Council, committees and commissions, local societies and a dedicated staff.

Legislation, patient care regulation, scientific issues, medical staff regulations and other concerns are greatly affected by the commissions and committees of the MSMA. Planning, research and summaries are reported to the Council and to this House of Delegates. MSMA staff provides continuity of the past, present and future as they cope with changing faces in leadership positions and new productive members. For this support, time and effort, I thank all of you.

Each year brings new problems into focus. Let us examine some of the major challenges of this past year in the context of the MSMA committees and commissions involved. The areas reviewed by these commissions collectively represent the most serious threat to medicine today — unbridled commercialism.

First, the Commission on Medical Economics, Third Party Medicine and Governmental Relations has the ongoing responsibility of considering government and third-party impact upon medical care financing as it relates to patients and physicians. HCFA's one-way regulation of Medicare and Medicaid patient care reimbursement has restricted care by two simple authoritarian methods: First, by limiting payment for a given disease or diagnosis to a predetermined amount per admission, and, secondly, by restricting those patients who can qualify for admission or treatment.

The system leaves the patient responsible for any expenses beyond these limits and essentially places the cost for treatment on the patient. If the patient is unable to pay the cost, it is shifted to the non-Medicare patients who must subsidize the expenses. The true costs are not reduced, but rather shifted to all citizens by taxation. In Missouri, as in many other states, considerable expenses are borne by state taxes.

James M. Stokes, M.D.

The present federal administration proposes a reduction of $22 million in Medicare and Medicaid benefits, a move which will exclude even larger numbers of elderly and indigent patients from vitally needed care. Ironically, HCFA has targeted the same amount — $22 million — for so-called research into methods of controlling physicians' fees. Furthermore, the Medicare fee freeze for physicians has been extended through Fiscal Year 1986 and is based on 1982 charges — a four-year lag.

As physicians' overhead continues to rise, many physicians will find it economically difficult to accept assignment, or even to treat Medicare patients. Meanwhile, there has been no freeze on congressional or federal employee salaries, nor in federal pension funds.

Mr. Harry Schwartz, senior medical editor at the New York Times, wrote, "My cost of living has increased this year, and I presume, so has my doctors'. Moreover, the press tells me that my doctors' malpractice premiums are rising. . . . In real terms, my doctors are getting less real income each year for treating Medicare patients. . . . But what bothers me most, as one who will be a Medicare patient for the rest of my life, is the question of fee freeze. This year, next year, or when will it result in doctors telling nurses not to disturb their sleep with Medicare patient problems?"

The "third party" responsibility of medical expenditures has developed into a formidable problem for patients and physicians. Large employers began retrenching employee medical benefits in the years 1979 and 1980 because of rapidly increasing costs and declining corporate profits. This has resulted in decreased dollar-amount coverage and a general restriction of medical coverage with new co-payment requirements for employees. These efforts are understandable and to some extent desirable.

However, despite recent record corporate earnings, there has been no move to restore medical coverage to these employees. In fact, the coalition of government and business has acquired tremendous leverage in bidding for discounted medical and hospital charges — and probably for discounted quality as well.

Another third party contributing to the commercialization process is "corporate medicine," predominantly hospital-originated. The number of for-profit hospitals increased rapidly from 1970 to 1980, and in 1980 they accounted for 30% of the nation's community hospital beds. For one of the largest chains involved in the lucrative acute-care business, a share that cost $18 in 1968 was worth $336 in 1980.

In order for these hospitals to show a profit, physician cooperation is essential — and entailing a profound loss of physician autonomy. The revenue generated by each doctor becomes the basis for reimbursement. This vertical corporate practice has already had an enormous impact on hospital-based physicians.

Further restrictions on medical funds monitored by your Medical Economics Committee include the enactment and implementation of PRO. These regulations dictate patient care financing this year and for the next decade. PSRO was deemed ineffective by Congress, and the PRO system was created — to provide budget reduction rather than to ensure the quality of patient care.

The Missouri Patient Care Review Foundation is functioning contractually as the state peer review organization now required by law. During the first year of its operation, the major goal has been to conduct reviews of the DRG system, as required by HCFA. DRGs establish limits on predetermined allowable hospital expenses for a number of diagnostic categories. Physician participation in the PRO has provided changes in the interpretation of the mandated guidelines. Continuing review by our committees and commissions will aid physicians and patients as implementation of PRO proceeds. Creative and alternative suggestions from our members have already brought changes in the function of PRO. The MSMA needs continuing activity in this area to maintain costs that are fair to patients and physicians, not merely determined by the political climate of the moment.

Now, let us turn to the Legislative Affairs Committee and the Medical-Legal Commission. During this past year, the MSMA Legislative Affairs Committee reported ongoing monitoring of 59 Senate bills and 117 House bills affecting medicine and health. These bills include issues under consideration by our Medical-Legal Commission. This commission reviewed the problems in current professional and product liability law and convened a meeting of other professional and business groups facing this common concern. The result was a coalition to study reforms of laws affecting liability and the expenses associated with it.

The Professional liability malpractice crisis continues to grow at a geometric rate, both in terms of the number of litigations and in the size of awards. The number of claims has increased 100% in the last 10 years, and the awards are up 500%. In 1975, there were fewer than five malpractice claims filed for every 100 doctors. By 1983, the figure was 16 claims per 100 doctors — a 20% increase over the previous year. Yet there is no evidence that this increase in number of claims and size of awards is related to a decline in the quality of medical care.

"The doctor glut of the 1980s will contribute to increased competition among physicians and could lead to less-than-quality standards in assessing patients' needs. More doctors cannot be equated with decreased dollar expenses in a totally commercially-oriented system."

Ten years ago, Missouri physicians responded to this crisis by creating MOMEDICO. This MSMA-sponsored, physician-controlled company has a track record of consistent defense of physicians, and premium rates competitive with other major insurance carriers. The company also sponsors physician education and communication programs as a way to prevent claims.

MOMEDICO will not go by the wayside (nor subsidize other interests) as have many commercial carriers. It deserves the active support of all MSMA members.

This leads us to our Commission on Continuing Education and Health Manpower. In addition to the powerful non-physician forces affecting medical economics, political efforts of the 1970s produced a dramatic increase in physician supply in the 1980s. In the four years from 1978 to 1982, Missouri physicians per 100,000 population rose from 162 to 181. Nationally, the figure went from 187 to 206 physicians per 100,000 population.

The "doctor glut" of the 1980s will contribute to increased competition among physicians and could lead to less-than-quality standards in assessing patient needs. More doctors cannot be equated with decreased dollar expenses in a totally commercially-oriented system.

Paul Starr, noted author of "The Social Transformation of American Medicine," wrote, "Unless there is a radical turnabout in economic conditions and American politics, the last decades of the 20th century are likely to be a time of diminishing resources and autonomy for many physicians, voluntary hospitals, and medical schools."

You may note that the "diminishing resources" apply to those most involved in medical care — physicians, voluntary hospitals and medical schools — while the "controllers" of the resources are the government and employers.

Where does this leave medical care for patients such as farmers — who are not corporate employees, not Medicare-eligible, and are engaged in a service industry? The pressures for commercialization have already produced a dislocation of patients who are not financially attractive to the profit-motivated corporate hospitals, nor to government-restricted and financed institutions. This new category of patients includes the newborn, the elderly with chronic disease, the terminally ill, and the service workers such as farmers, who may not qualify for many government programs.

Truly, the ideals of professionalism are becoming strained. The health centers of today are the profit centers of tomorrow. These items require strong professional ethics to prevent divisiveness among physicians while maintaining quality care at the lowest possible cost for patients.

The MSMA, through its commissions and committees, provides continuing input and representation of patients and physicians in this laissez-faire commericalization process. No other medical structure can provide the expertise as does the MSMA. In the coming year, I urge you to support your new officers and Council with these goals in mind. ■

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CARDIZEM
(diltiazem HCl)
balances potent coronary vasodilation with a low incidence of side effects

Low incidence of side effects
CARDIZEM® (diltiazem HCl) produces an incidence of adverse reactions not greater than that reported with placebo therapy, thus contributing to the patient's sense of well-being.

Reduces angina attack frequency*
42% to 46% decrease reported in multicenter study.[1]

Increases exercise tolerance*
In Bruce exercise test,[2] control patients averaged 8.0 minutes to onset of pain; Cardizem patients averaged 9.8 minutes ($P<.005$).

CARDIZEM®
(diltiazem HCl)

THE BALANCED CALCIUM CHANNEL BLOCKER

Please see full prescribing information on following page. 2/84

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*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

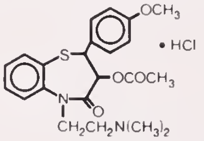
References:
1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

PROFESSIONAL USE INFORMATION

cardizem®
(diltiazem HCl)
30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+) -cis-. The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CAROIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CAROIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CAROIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LOH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CAROIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CAROIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LO_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy** — CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

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Presidential Inauguration Speech

Walter A. German, M.D.

On such a pleasant occasion, I would not dare give a sobering speech, and as a matter of fact, I won't. We are all aware of the ever increasing number of problems facing the health care professional, but many of us are not so aware of the Missouri State Medical Association's responses to these problems. You may, for example, be aware of a legislative committee report, or an impaired physician report, or a medical economics report, but do you realize that our Association is active right now in 21 different fields of endeavor? Each and every one of these programs is working for the betterment of you, the individual physician.

We have a malpractice insurance company that is doing well, and has many of your colleagues sitting on the Board of Directors. I would bet that even the physician leaders in this audience are not familiar with all of these programs, and they are the ones most interested in state medicine. Think of how little knowledge your non-member friends have of any of these very helpful programs.

One of my three main goals this year will be to appear before these physicians face to face and ask for their help. They don't have to give of their time. They don't have to serve on committees. We have plenty of doctors who are interested in serving the organization. The main reason for joining MSMA is certainly not the couple of hundred dollars that we get from their membership. This organization is in the black and plans to stay that way. No, the main reason for joining is to do their part, and to get into the mainstream to help Missouri medicine. It is well known that the Missouri State Medical Association is the number one voice of the doctors in Missouri. The specialty groups and other groups exert some force, but the Missouri State Medical Association is the actual voice listened to by the public, the newspaper and television reporters, and the legislators.

Think of how much more clout we would hold if 90-95% of the doctors of medicine in our state became members. This includes doctors in research, teaching, as well as in clinical practice. This then will be the tone of this coming year. I am going to let people know who, what, and whatfor is MSMA.

Walter A. German, M.D.

At this very time we have more than 180 doctors active in various committees, commissions, and special task forces. And they are accomplishing goals. I point, for example, to the eight doctors on the legislative committee who, together with 413 doctors serving as Key Contacts and 68 spouses serving on the Auxiliary Key Contact Committee who are largely responsible for the fact that only one or two bills detrimental to medicine have been passed by the Missouri Legislature in the past six to ten years. Yes, our organization is very viable. It is on the move now and it will continue to move ahead each month of this year. Now is the time for non-members to put aside their petty problems and join with us in the monumental task of guiding the health care field in the state of Missouri.

Secondly, I feel that it is time to further educate the general public to some of the problems in the health care field and what we, as physicians, are doing about them. With this in mind, we are going to activate our speaker's bureau, give them specific topics, furnish complete information, and have them speak at the local level to the elderly, the community business leaders, the unions, and so forth. The general public is very optimistic about our country now, but their tendency is to worry about the future and the future cost of health care. The legislators don't have a clear cut idea of the future, so they are very open to medical opinions and options. The Missouri State Medical Association must do its major part in helping shape the future of medicine in our state. Let me give you some interesting facts. Missouri now has the lowest dues structure in the country. Missouri ranks fifth from the top in the number of AMPAC members. These things don't just happen. They are the result of physician and staff work.

Thirdly, I also hope to establish more and better lines of communication with the various media. We physicians know how hard we work to help solve our patient's problems, but all of these actions never seem to reach the public eye and ear. I feel that organized medicine must present a much more positive public image through the media, and to move away from a simply defensive stance. My hope, therefore, is to publicize many of the programs and the actions going on at the Missouri State Medical Association, as well as actions of the local medical societies.

This, in a few words, constitutes my program of action for the coming year. With the help of many, I feel sure it will be successful. Thank you. ■

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Auxiliary's 60th Annual Convention

Newly-elected Auxiliary President Chris Bohigian (left) accepted the president's gavel from retiring president Polly Bowles.

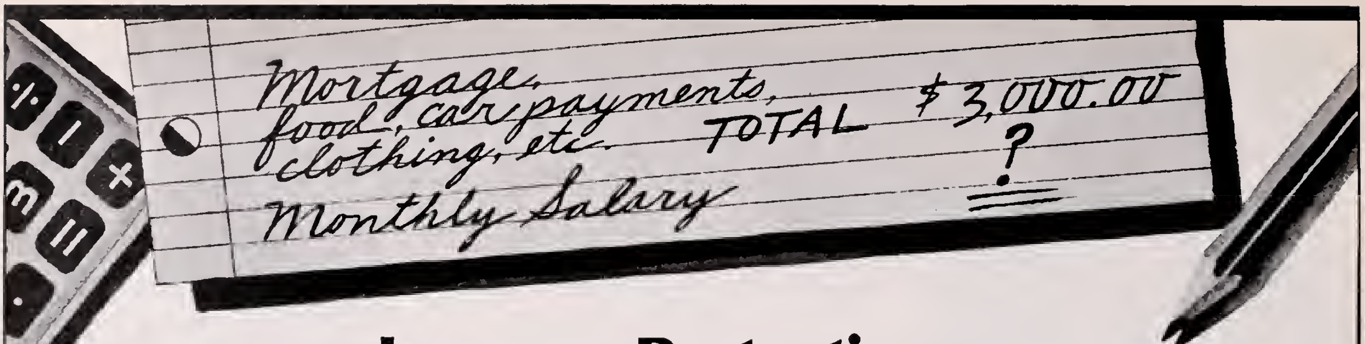
Larry Moore, managing editor and anchor of KMBC-TV in Kansas City, gave the keynote address to the Auxiliary's Awards Luncheon.

AMA Auxiliary President Billie Brady addressed the Saturday General Assembly of the MSMA Auxiliary.

Past Presidents Janet Campbell (left) and Jackie Sanders shared a smile during the reception for incoming-president Chris Bohigian (not pictured).

Three presidents stand all in a row: Polly Bowles, MSMA retiring president (left), Mary Kay McPhee, AMA Auxiliary president-elect; and Chris Bohigian, newly-elected MSMA Auxiliary president.

Auxiliary Convention Co-chairman Vi Goodson enjoyed a moment of rest with Sylvia Willoughby.



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Report of the Auxiliary

Mrs. Richard Bowles

How many of you have said, either privately or publicly, this past year that "Medicine isn't fun anymore"?

We in the Auxiliary are also very much aware of the unpleasant changes in Medicine — the complications arising in our families from the pressures of increased government regulations, litigation, competition, and poor public image.

This is the 60th year that your spouses, as a group, have shared the concerns of you, the physician.

The legislative process in our land continues to be a critical concern and demands our mutual involvement. Your Auxiliary was happy to take the responsibility of investigating the concept of Medvote to promote physician participation in the election process, and to implement it in the state for the MSMA and Auxiliary. Our Day at the Legislature luncheon with a record number of legislators and Auxilians in attendance featured the Governor as guest speaker and provided occasion for communication with our lawmakers. The Auxiliary was represented when the Governor signed the new safety seat belt into law, and the Governor presented proclamations for Doctor's Day and Organ Donor Awareness Week to the Auxiliary. Our Key Contacts and letter writers keep busy. One county auxiliary helped elect a physician to public office.

Four spring workshops, our Fall Conference, visits to the counties by the president and other officers provided opportunities to create an informed membership. Excellent material, often provided by the national organization of our federation, was distributed. I have encouraged the State Auxiliary this year to raise their voices, in harmony as a mighty chorus, to be heard for the cause of Medicine. We have worked for better communication. Better communication of medical information to your patients is an ever present need and was addressed by Auxilians throughout the state by promoting those *Health Projects* to which their local membership could best identify and feel committed to — A few of these were: childbirth classes for pregnant teenagers, health fairs for 800 third-graders, infant development stimulation booklets for new mothers, scholarships for outstanding high school science students, and guidelines for organ donor awareness programs.

Polly Bowles

Still other projects included classes to inform teenagers about Fetal Alcohol Syndrome, blood donor programs, baby-sitting classes for teenagers, drug abuse programs, KISS Program (Kids In Safety Seats), and many more.

The changes in Medicine are discouraging to all of us, and yet these very circumstances provide new challenges. It is heartening to hear from the medical school deans that there are tremendous numbers of young adults applying to medical schools. As one dean put it, they evidently are not disenchanted with the medical profession. And yet, the cutbacks in funding for graduate medical education are severe and we share the concerns of medical schools and students as to the need for more funding. Medical education will again receive a monetary infusion this year due to the efforts by Auxilians. The greatest single event in that effort will be tonight. Please do remember the Auction at 6:00 p.m. in the Regency Atlanta, next door, to benefit AMA-ERF and MSMF.

Having mentioned Legislation, Health Projects, and Fund Raising, I would say a brief word also about our fourth main area of endeavor, Membership, which receives constant attention. Our organization, as all volunteer groups, is affected adversely by our changing society. Perhaps we are experiencing what many other segments of society have faced much earlier than we — our doctors' spouses are becoming employed outside the home in increasing numbers, developing and nurturing a career of their own, making time for volunteerism very difficult to find.

Increasingly, we are finding the spouse to be the male member of the medical marriage. The Join-a-thon program and other new ideas were implemented this year, plus an attractive, new membership brochure was created. Membership is up and we are looking forward to new inroads into the resident physician spouse group as we anticipate the creation of the MSMA resident physician groups. Not only do physicians who join the Association during their resident days tend to stay with the organization after, but also their spouses' interest in the Auxiliary tends to persist if she joins during the residency days. Doctor, we earnestly request that you encourage your spouses to be a member of the Auxiliary — good membership will make us more effective helpers of MSMA.

Thank you very much for your attention this morning, and for your many kindnesses this year. I am proud to be a doctor's wife, and I am proud to have been closely associated with the physicians and staff of your organization this year. It has been a source of joy and great pleasure to me. Thank you. ■

Committee and Commission Reports

Commission on Medical Economics Third Party Medicine and Governmental Relations

The Commission on Medical Economics, Third Party Medicine, and Governmental Relations met July 21, 1984 and January 12, 1985 in Columbia, Missouri. The July meeting was dedicated mainly to presentation by Ms. Donna Fietsam, Manager of Medicare Services for General American. She explained the then-to-be implemented participating/non-participating classification system. An explanation of the plan was presented to MSMA Council at its September meeting. The Commission also implemented disseminations of information to local societies for seminars to acquaint membership with implication and ramification of the agreements. A summary explanation was also printed in Missouri Medicine.

At the same meeting, Vic Arnold, Director, Division of Family Services and Ms. Linda Logsdom, Project Manager in Jackson County, presented the Medicaid changes placing recipients under prepaid health plans/ physicians sponsors. This information was disseminated to membership in Jackson County and where applicable throughout the state. UCR and institutional care was reviewed and recommendations passed to the Council. Discussion was held on establishing lists for medical and surgical outpatient procedures as requested by Resolution 19. The recommendation is that this not be done, in that, this decision should remain between physician and patient.

The January meeting reviewed the third chapter of the in-depth study of alternative health care systems in Missouri. It is to be noted this has become recognized nationally as the authoritative encyclopedic source used by other societies and the federal government. Because of the volume, this shall be restricted to in-depth study of HMOs with monitoring of the other plans with special note of rural area system developments.

Update of the prepaid plans in Jackson County and throughout the state have been reviewed. The Missouri public health priorities have been reviewed and comments have been forwarded to Council.

The Governors' Task Force on Health Care Costs has been reviewed and the Commission recommends that MSMA encourage spokesmen to appear before legislative committees, particularly those dealing with peer review committee confidentiality.

Resolutions and reports from council have been reviewed and recommendations submitted.

Nicholas J. Colosi, *Chairman*
C. C. Reynolds
Fred W. Hahn
Pierre W. Keitges
Arturo C. Montes
Frederick L. Thompson
C. R. Talbert
Gerard M. Callaghan
Linda Fisher
Joseph A. Kahn
John K. Layle
Francis Corry
Stanley S. Peterson
Howard H. Roberts
B. A. Moranville
Dennis Eneanya, Student

Commission on Medical-Legal Affairs

The Commission on Medical-Legal Affairs met on August 8, 1984 in Columbia. In response to Substitute Resolution 6, adopted by the 1984 MSMA House of Delegates, the Commission on Medical-Legal Affairs invited a wide range of professional and business organizations to a joint meeting to consider the advisability of establishing a coalition to seek reform of tort statutes in Missouri as they relate to professional and product liability.

Those present recognized that problems do exist in Missouri's tort statutes. Representatives from each organization expressed general beliefs on the subject. There was enough concern on the subject to establish a preliminary coalition to draw up goals and guidelines which would be brought back to those present. Each group could then decide if it desired to be involved and, if so, the extent of its involvement. To facilitate the aims of those present, Chairman Davis appointed the following committees: an Organizational Committee to develop an organization structure for an effective coalition; Agenda Committee to define the problems and present suggestions for discussion; Budget Committee to review the work of the Organizational and a Agenda Committee and prepare a budget to implement actions.

It was agreed that the three committees would meet during August or September and, following those meetings, the Chairman of the three committees would hold a joint meeting to coordinate their reports. MSMA would provide funding needed for these meetings.

Following the conjoint meeting, January 19, 1985, the Commission met in Columbia to review the formal minutes of the Organizational, Budget and Agenda Committees. After discussion of all the reports concerning tort reform the Commission recommended that the Coalition request the Governor and/or the officials of the Missouri General Assembly to establish task forces or select committees to study the product and professional liability problems in Missouri and after hearings recommend tort reform solutions to the Missouri Legislature."

In further action, the Commission also recommended that MSMA publicize any countersuit assistance available.

Leonard Davis, *Chairman*
David Wilkinson
Johannes Schokker
Donald E. Kuenzi
George L. Hawkins, Jr.
James E. Mallow
Tehmton Mistry
Frank Ostapowicz
Allen L. Spitler
Ben I. Albano
Bernard Draper
John P. Roberts
Garth S. Russell
Philip R. Fogle
William J. Medlicott
David M. Reisler
Barbara Stegmann, Student

Committee on Constitution and Bylaws

At the 1984 Annual Convention of the Missouri State Medical Association, the House of Delegates adopted the following Resolution 27:

> RESOLVED, that the Missouri State Medical Association Council prepare proposed changes in the Constitution and Bylaws to implement the establishment of a MSMA Resident Physician's Section. This should be presented to the 1985 House of Delegates along with a fiscal note.

This Committee offered changes to implement Resolution 27. These changes in the existing MSMA Constitution and Bylaws were published in the March 1985 issue of Missouri Medicine. The estimated fiscal note is $1,000 annually.

The Committee recommends these changes be adopted.

Jo-Ellyn M. Ryall, *Chairman*
Sivaprasad D. Madduri
Warford B. Johnson, II
Thomas M. Sodeman
John D. Hunkeler
Jane Reardon, Student

Commission on Interspecialty Medicine

Although the Commission on Interspecialty Medicine did not meet in 1984, commission business was conducted via mail.

Last year, the general opinion of the specialty representatives was that further meetings should be held only for the examination of a problem requiring consideration by more than one specialty.

The chairman of this commission directed a questionnaire to each representative to determine a mechanism that will enable this commission to be more responsive to specialty concerns. The results of this survey will be conveyed to the 1985-1986 specialty representatives.

James O. Alyea, *Chairman*
Wayne B. Miles
James A. Roller
Roger A. Willcox
Kenneth A. Buchwach
James E. Campbell
Michael Perry
George E. Mendelsohn
Gregory C. Starks
Robert F. Tobin
William W. Beckett
Thomas M. Sodeman
David L. Simon
Charles R. Kelly
Richard T. Quick
Anthony A. Berni
John P. Christy
John T. Critchlow
John R. Goheen
Jay L. Milne
Michael F. Boland, Student

Committee on Planning

The Commitee on Planning held a telephone conference on November 19, 1984, and proposed language to implement Resolution 3 from the 1984 House of Delegates dealing with the formation of a Hospital Medical Staff Section within the MSMA and a separate Resident Physician Section. The Committee on Constitution and Bylaws further refined our suggestions and offered them to this House.

The Committee also recommended reinstitution of the annual MSMA Leadership Conference, which is designed to inform state and local society officers and members on such subjects as legislation, membership, public relations, etc. The Committee decided it would be advantageous to the MSMA and its members to recommend that the MSMA Council schedule a Leadership Conference in 1985, perhaps in conjunction with a meeting of MSMA "Key Contacts."

The Committee also recommended that the MSMA Council initiate a MSMA "Washington Visitation." Such "visitations" were held prior to the mid-1970's. Attending such meetings were: one physician from each congressional district who could visit personally with his/her representative; one physician who could visit personally with our U. S. Senators; MSMA president and senior staff.

The Committee briefly discussed items considered by the Committee at earlier meetings. These include the Deferred Compensation Plan, the suggestion that MSMA become administrator of MOMEDICO and the MSMA Impaired Physician Program. Although no action was taken on these items, it was suggested that the Deferred Compensation Plan and the Impaired Physicians Program should be given wider publicity among MSMA members.

Dan T. Sullivan, *Chairman*
Mark C. Kasten
Otis Moseley
Sam L. Farrell
David Glover
Carl R. Kruse
L. G. Mayuga
George M. Bohigian
Fred D. Fowler
Richard Vaughn, Student

Commission on Public Affairs

The Commission on Public Affairs met on July 7, 1984, and November 10, 1984. The Commission recommended several items designed to heighten physician awareness of current issues in health care.

A seminar for training physicians in handling media questioning and on-camera interviews was scheduled for May 18-19, 1985 (backup dates are June 29-30). The participants in the seminar will include MSMA officers and other interested members. The seminar, conducted by Mort Enright, will be held in Columbia.

Andrew McCanse, M.D., on request by the Commission, wrote an article concerning worker absenteeism and sick-leave abuse in Missouri and the physician's role in helping control these problems. The article was published in the January 1985 issue of Missouri Medicine.

A seminar on worker's compensation laws and disability determination for physicians was scheduled for the 1985 Annual Convention in Kansas City, to be led by Richard Heimburger, M.D.

Three new brochures received the Commission's approval during 1984.

"A Woman's Choice," which presents a discussion of the alternatives available for the treatment of breast cancer, was produced in the summer of 1984. Including sample copies sent to MSMA members, to Missouri news media and to other state and local medical societies nationwide, more than 45,000 brochures have been distributed. Among those purchasing quantities of the booklet were the American Cancer Society and Ellis Fischel State Cancer Hospital.

"Making Plans" was published in late 1984. This brochure presents the many health care options available to consumers today, including HMOs, PPOs, IPAs and traditional health insurance plans. MSMA members were introduced to the brochure in January 1985.

"What in the World is a DRG?" was produced in the fall of 1984. This brochure, designed for Medicare patients and their families, seeks to make the Medicare DRG-based hospital reimbursement plan more understandable to the patient. Samples of the brochure were sent to MSMA members in January 1985.

A "Marketing Guide for Physicians" by the Pennsylvania Medical Society was recommended for purchase by the

MSMA for resale to resident physicians and member physicians of the MSMA.

MOMEDICO had asked the Commission's advice and approval of materials for a publication on professional liability insurance. The Commission gave is approval to the materials, which are to be distributed to resident physicians in Missouri. MOMEDICO expected to have the brochure published in early 1985.

The Commission also gave its approval to investigating the interest local medical societies might have in entering a conjoint paid public relations program with the MSMA. Several societies replied to initial inquiries, but only a few were interested in pursuing such a plan. Among those who showed some interest were the Cole County Medical Society and the Mid-Missouri Area Medical Society.

Finally, the Commission recommended that all public relations items produced by the MSMA carry the notation, "from the physician members of the Missouri State Medical Association and your local medical society." This was intended to bring a greater public awareness of what the MSMA is and who its members are.

Radio public service announcements continue to be distributed quarterly to 157 Missouri radio stations. Television PSAs are distributed annually to 23 stations.

Medical Messages, a twice-monthly column on general health topics, were offered to Missouri businesses on a subscription basis in 1984. Approximately 140 businesses were added to the mailing list, which already included most Missouri newspapers. The businesses generally planned to use the columns in their employee newsletters and as announcements on company bulletin boards.

Total sales on various MSMA publications were reported as follows: Patient Surveys — 14,000; Medical Records — 9,000; Cost Containment — 90,000.

The Commission on Public Affairs decided that in order to become more effective, it should meet more often than once a year. Commissioners, therefore, hoped to meet a total of three times during the 1984-85 year.

Carl Myers, M.D., *Chairman*
Barry J. Bass
Bruce Stoliar
George Bohigian
Dorothy D. Reister
Elias M. Throne
Carl C. Pearman
Jimmy D. Heath
Joseph J. Lauber
Richard K. Danis
Robert E. Gardner
Victoria Gunn
Mohammed Akhter
Philip Pitney
Ms. Shari Dobkin, Student

Commission on Continuing Education and Health Manpower

The Commission met on September 29, 1984 to review critiques from the specialties sponsoring scientific programs during the 126th Annual Convention. The moderators indicated that most of the scientific programs were well-attended. It was felt that the program format contributed to this attendance and that the same format should be continued.

Following careful review of Draft No. 11, "Standards for Accreditation of Medical Education Programs Leading to the M.D. Degree," the Commission approved this document and stressed that one of the strengths of medical education in the United States is its diversity of approaches.

The Commission called upon Missouri's four medical schools for input regarding Resolution No. 24, "Recommendation for Multidisciplinary Studies," which states: "Resolve, that the MSMA encourage those individuals who are intending to enter the practice of medicine to pursue high school and college educational programs that include study in multiple disciplines."

They unanimously support Resolution No. 24, which establishes a mechanism to achieve a balance between generalism and specialism in order to provide physicians with a well-rounded educational background.

George X. Trimble, *Chairman*
George D. Comfort
James Youngblood
Thomas J. Hopkins
Raymond O. Frederick
Christopher H. Jung
Wilbur A. Mullarky
W. Wayne Boydston
Hugh Lundman
Stephen A. Brunton
James J. Mongan
William D. Bradshaw
Robert H. Ramsey
J. Michael Conoyer
Hiremathada Jayanandaiah
Greg VanDeven, Student

Report of the Councilor District Directors on Continuing Medical Education

During 1984, members of this committee met with representatives of two hospitals, three medical societies and two specialty organizations seeking recognition as a sponsor for continuing medical education.

The committee made the following recommendations:

Boone County Medical Society — Full accreditation for a three year period
Buchanan County Medical Society — Full accreditation for a three year period
Kansas City Society of Ophthalmology and Otolaryngology — Full accreditation for a four year period
St. Anthony's Medical Center — Full accreditation for a two year period
St. Louis Society for Medical and Scientific Education — Full accreditation for a four year period
Missouri State Orthopaedic Association — Full accreditation for a one year period
West Plains Memorial Hospital — Full accreditation for a one year period

George X. Trimble, *Chairman*
John R. Dixon
Patricio C. Avila
Robert H. Ramsey
John C. Soucy
William D. Bradshaw
W. Wayne Boydston
Walter C. Dandridge
Bernard Draper
Christopher H. Jung

Action Committee to Negotiate With Third Parties and Hospitals

Socioeconomic influences have forced major changes in the relationship between the hospital and its medical staff. The implementation of prospective pricing, new and emerging forms of alternative health care delivery systems and increased hospital-physician competition have placed new constraints on a partnership which has been longstanding. We have seen many instances where the hospital medical staff and the governing board for the institution have publicly and vehemently disagreed.

More specifically, during 1984 we have seen the concept of the organized self-governing medical staff surface as probably the single most important issue being addressed at the local and national levels. As a result, the AMA House of Delegates established our present position with respect to the responsibilities and functions of the hospital, its governing board and the medical staff:

> 1. "The hospital has corporate responsibility for maintaining the necessary facilities, a safe environment and a mechanism for the prudent selection of those who treat patients within the institution.
>
> 2. The governing board is responsible for the operation and management of the hospital and fulfilling its corporate responsibilities.
>
> 3. The organized medical staff and its members have a contractual obligation, entered into with the hospital, to carry out their professional medical responsibilities through (a) the efficient operation of medical staff committees; (b) the objective selection of professionally qualified members of the organized medical staff and disciplinary functions relating to their competent performance; and (c) functioning as a self-governing body in promiting quality patient care within the hospital.
>
> 4. Members of the organized medical staff may likewise deal collectively, as an entity, with the hospital and its governing board with respect to professional matters involving their own interests, as distinguished from the functions of the organized medical staff performs on behalf of the hospital."

Resolution #91, was adopted by the AMA House of Delegates during the December 1984 Interim Session. The Resolveds, as adopted by the delegates are as follows:

> "RESOLVED, that the American Medical Association urge hospitals to establish a committee of equal numbers of board of trustees/directors and medical staff representatives to negotiate conflicts and attempt to resolve them as they arise; and be it further
>
> RESOLVED, that the American Medical Association and the American Hospital Association explore mechanisms for the further resolution of unresolved conflicts between hospitals and medical staffs through mechanisms such as a local mediation committee composed of equal numbers of physicians and hospitals trustees/directors appointed jointly by the component medical society and the local hospital association or council."

Resolution 91 asks the AMA to urge hospitals to establish a committee of representatives from the hospital governing body and medical staff for the resolution of conflict. It calls on the AMA and the American Hospital Association to explore mechanisms for resolution of conflicts between hospitals and medical staffs.

The AMA Reference Committee heard general support for the concepts embodied in Resolution 91. In addition, the Reference Committee believed that, if necessary, the establishment of additional local mechanisms for conflict resolution can foster a more cooperative relationship between hospitals and medical staffs and that this possibility should be explored.

The AMA Reference Committee noted that the House of Delegates adopted Report A of the Council on Medical Service — Mediation of Physician-Hospital Disputes — at its 1971 Annual Meeting. The report made three recommendations, which provided: that hospital governing bodies and medical staffs should be urged to develop mechanisms for resolving disputes internally; that local and state medical and hospital associations or groups should be urged to establish panels of their members from which ad hoc mediation teams can be selected as the need arises; and that the joint mediation services of the AMA and the American Hospital Association should be sought in any physician-hospital disputes only after all available resources at the local and state levels have been unable to achieve resolution of the problems.

We would like to point out that the Association has had a committee in place to negotiate problems between hospital boards and hospital medical staffs for several years.

Stanley S. Peterson, *Chairman*
James P. Hopkins
Marvin A. Singleton

Report of the Judicial Council

Pursuant to the authority and responsibility vested in it under the provisions of Article VI of the Constitution and Chapter XI of the Bylaws of the Missouri State Medical Association, the Judicial Council of the Association does hereby promulgate the following rules and regulations concerning the judicial mechanism.

General

The Missouri State Medical Association's Constitution provides:

> "Article VI. The Judicial Council shall be the judicial body of the Association. It shall consist of five active members nominated by the President and elected by the House of Delegates."

The Missouri State Medical Association's Bylaws provide:

> "Chapter XI, Section 1. The Judicial Council shall have original jurisdiction in all questions involving Missouri State Medical Association membership, all controversies arising under the Constitution and Bylaws and under the rules of conduct as outlined in the Bylaws and controversies between two or more component societies or their members. The Judicial Council shall be the judicial authority of the Missouri State Medical Association and its decisions shall be final. The Judicial Council shall also investigate general ethical conditions and matters pertaining to the relations of physicians to one another or to the public and make recommendations to the House of Delegates or the component societies.
>
> Section 2. The Judicial Council shall be composed of five members elected to five-year terms. Nominees shall be submitted by the President for election by the House of Delegates. Any vacancy occurring on the Judicial Council shall be filled by nomination of the President and election by the House at its next Convention for the remainder of the unexpired term. The first five members of the Judicial Council shall be elected on a staggered basis; one for one year; one for two years; one for three years; one for four years; one for five years.
>
> Section 3. The Judicial Council shall select a Chairman and Vice Chairman and it may adopt such rules and regulations as it deems necessary and appropriate for the conduct of its affairs subject to approval by the MSMA Council."

The Association's judicial mechanism is intended to make available a means whereby differences and disagreements in the areas of membership and ethical and professional conduct can be brought to a settlement that is fair to the interests of all parties.

The original jurisdiction concerning complaints rests with the Judicial or Ethics Committee of the component medical society in which the doctor or doctors involved hold membership. The Missouri State Medical Association Judicial Council shall have original jurisdiction in all controversies or questions between two or more component societies or their members. Appeals from the findings of the component society committees may be taken to the MSMA Judicial Council. Beyond the Judicial Council of the MSMA, appeals may be taken by American Medical Association members to the Judicial Council of the American Medical Association.

The House of Delegates of the Missouri State Medical Association is the legislative body, and the Council and the Officers constitute the executive body of the Association. The Judicial Council has the plenary responsibility for the supervision and maintenance of the judicial mechanism.

This mechanism is intended to demonstrate that medicine can equitably and amicably settle its own problems in the area of ethical and professional conduct.

The Missouri State Medical Association Judicial Council has the authority to summon members of component societies to appear and testify either in connection with the complaint involving the members summoned or as a witness in cases involving other members. Failure to honor such a summons shall give rise to the citation of the member for contempt of the mechanism, which shall subject him/her to the disciplinary action of the Judicial Council.

All decisions of the MSMA Judicial Council are binding upon the respective members of the MSMA. They are not offered to members merely as advice. No member is free to decide whether or not he will conform to them. In addition, the MSMA Judicial Council may, in their judgement, notify hospital medical staffs and other appropriate agencies, as indicated, of their findings and determinations.

Regulations

A. No complaint shall be given official consideration unless it is submitted in writing and presented in full with all the necessary details.

B. Receipt of the complaint in proper form shall be acknowledged to the complainant or complainants in writing.

C. The member or members of the component medical society against whom the complaint is lodged shall be informed in writing and shall be supplied with a copy thereof.

D. The possibility of an amicable settlement of the differences by means of individual contact with the parties to the complaint shall be explored by a designated member or members of the Judicial Council before the complaint is officially presented to the full Judicial Council for action.

E. When an amicable settlement, as mentioned above, is not possible, and when assurance has been given by the complainant(s) that no legal judgement has been rendered and that no court action is in the process or contemplated, the Judicial Council shall accept the complaint.

F. A hearing shall be scheduled by the Judicial Council to which physician members are summoned and nonmembers are invited. Any member of the Judicial Council who is a party to, or who has an interest in, the complaint shall, at this point, disqualify himself/herself from participation. Parties to the complaint will be interviewed separately and interrogated in the course of the hearing. They may be represented at the hearing by legal or other counsel. All evidence and testimony presented at the hearing and all discussion by the Judicial Council shall be confidential under the judicial mechanism. No discussion of the complaint shall be indulged in by any member of the Judicial Council except in the hearing dealing with the complaint or in the executive session following the hearing or in fulfillment of the area of official investigation.

G. Subsequent to the hearing and departure of the parties to the complaint, all findings of the Judicial Council shall be arrived at in executive session.

H. All principals shall be simultaneously informed of the Council's findings. This notification is to be forwarded by registered or certified mail.

Hugh E. Stephenson, *Chairman*
E. T. Hansbrough
Ronald A. Youmans
Richard V. Bradley
Donald McIntosh

Committee on Legislative Affairs

Consider the following: Of the 1,266 bills introduced before the 1985 Missouri General Assembly, 253 deal with medical or health-related issues. That is 20% of the total.

Physicians often look to Congress in Washington as the major regulator of their patients and their profession. But, by scanning a list of subjects covered by bills before the Missouri Legislature, it is obvious that your state legislators have a direct voice in who will practice medicine and how medicine will be practiced in our state. Following are just some of the issues being considered this Session:

- Medical Malpractice
    - Collateral Source
    - Cap on Awards
    - Structured Awards
- Peer Review Committee Confidentiality
- Licensure of Lay Midwives
- A Separate State Department of Health
- Practice of Nurse Anesthetists
- Reporting Gunshot Wounds
- Physician Assistant Registration
- Patient's Living Will
- Medicaid "Prompt Payment"
- Certificate-of-Need Laws
- Furnishing Medical Records
- Poison Control Network
- Teenage Drug Abuse
- Licensing Dieticians
- Funding of Medicaid Program

The list goes on and on and each measure deals with matters of interest to medicine. The legislature's interest in medical issues continues to expand each Session.

Before briefly recapping the Session to date, the Committee would like to offer two suggestions on how MSMA members can have a direct bearing on legislation introduced before the General Assembly. First, help your Legislator — During political campaigns, physicians often contribute time and funds to presidential and gubernatorial candidates. However, a check of campaign finance records indicates that few physicians contribute directly to the state senate and representative candidates who vote on the issues that affect medicine. With state senatorial races costing more than $80,000, it is obvious that the candidate of your choice needs both money and volunteer assistance. Involvement in campaigns and at fund-raisers during the interim periods insures that a Legislator will know you when you ask for assistance on legislation. It doesn't guarantee a vote, but it helps!

Secondly, participate in PIP and MMPAC. The Physician Involvement Program (PIP) initiated this year requests that physicians give one Wednesday a year to come to Jefferson City and personally visit with their state legislators. Participants meet at MSMA Headquarters for a briefing on important medical issues and then go to the Capitol to share views with their legislators. Early comments on PIP have been very favorable.

MMPAC, your Missouri Medical Political Action Commitee, has been a vital cog in medicine's legislative efforts for several years. By contributing to MMPAC, physicians create a pool of funds which can be used to assist those candidates who will listen to medicine's views. The importance of MMPAC grows annually as more and more organizations form their own PAC's to help candidates.

With more than two months remaining in the current Session, it is too early to forecast the outcome of most issues, but following is a recap of the status of major medical legislation.

PROFESSIONAL LIABILITY — Three bills were introduced to address the skyrocketing cost of malpractice insurance. **Senate Bill 7,** sponsored by Sen. Truman Wilson, St. Joseph, would reduce awards by the amount of monies the claimant received from collateral sources. The bill is considered dead this Session. **Senate Bill 47,** sponsored by Sen.Roger Wilson, Columbia, would mandate that awards of over $50,000 in malpractice cases be "structured" or made in periodic payments rather than in a lump sum. The provisions of this bill have been incorporated into **Senate Bill 126,** which would place a cap of $350,000 on non-economic awards in malpractice cases. **Senate Bill 126,** sponsored by Sen. Robert Johnson, Lee's Summit has been voted "Do Pass" from committee and should be considered by the full Senate later this Session. The **trial** att**orneys** are mounting an all-out campaign to defeat **SB 126,** so physicians must express their support to their legislators if the bill is to pass.

PEER REVIEW COMMITTEE CONFIDENTIALITY — The Missouri Supreme Court last fall ruled that peer review committee proceedings are discoverable in court. In response, the MSMA asked Rep. Doug Harpool, Springfield, and Sen. John Schneider, St. Lous, to introduce legislation to restore confidentiality to these proceedings in order to insure the effectiveness of peer review committees. **House Bill 357** has passed the House and is awaiting a Senate committee hearing. Again, the *trial lawyers* are opposing **HB 357** and physicians need to contact their senator with support.

STATUS OF OTHER LEGISLATION (MSMA POSITION INCLUDED)

SB 1 (Certificate of Need) — Would, among other provisions, extend the moratorium on hospital and nursing home construction for two years. Monitor/Passed Senate.

SB 25 (Separate Department of Health) — Would upgrade the Missouri Division of Health to Department level. Support/Passed Senate.

SB 43 (Seat Belts) — Requires front seat occupants to wear seat belts. Support/Signed by Governor.

SB 51 (Living Will) — Recognizes a patient's right to sign a Living Will. Monitor/Perfected by Senate.

SB 54 (Gunshot Wounds) — Would require physicians to report all gunshot wounds to law officials. MSMA amended to delete reporting of knife wounds. Monitor/Passed Senate.

SB 90 (Medicaid-Prompt Payment) — Would require Medicaid to pay providers within 45 days or pay interest. Support/Perfected by Senate.

SB 224 (Midwives) — Would license and permit the practice of lay midwifery in Missouri. Oppose/In Committee.

SB 295 (Dieticians-Licensure) — Would license dieticians and limit the practice to those so licensed. Opposed/In Committee.

HB 52 (Furnishing Medical Records) — Would require medical providers to provide patients a copy of their medical records upon written request. Amend/Awaits House Action.

HB 79 (Nurse Anesthetists) — Originally permitted independent practice by nurse anesthetists. Amended to merely define C.R.N.A.'s in Nurse Practice Act. Amend/Committee Approved Late.

HB 93 (Physician Licensure) — Would permit a complaint to be filed against a physician licensed in Missouri if his/her license has been suspended or revoked in another state. Support/Awaits House Action.

HB 240 (Child Abuse) — Would allow a physician, among others, to petition the court to provide care for a child with a life-threatening condition if that child's guardian refuses to do so. Monitor/Passed House.

John I. Matthews,
Chairman
James M. Stokes
Walter A. German
H. Peter Ekern
Larry G. Piepergerdes
Donald P. Miller
Marvin A. Singleton
Mrs. Richard P. Bowles
Mr. Mike Funderburk, Student

Committee on the Impaired Physician

The committee met on December 9, 1984 and January 12, 1985.

The committee members established quarterly meeting dates to discuss issues that confront this committee. The first of these quarterly meetings was held on January 12, 1985.

In November 1983, the committee recommended that a medical director be funded as a full-time position. Even though the committee recognized budget constraints, the committee reaffirmed its previous recommendation that the medical director position should be fulltime. The chairman indicated that medical associations that have impaired physician programs staffed by medical directors seemingly have a better relationship with their state board of healing arts and have experienced significantly greater case findings than those states that do not have a medical director.

The committee recognized that the Missouri State Medical Association finds itself in a difficult dilemma in that it has been reluctant to allocate funds necessary for a medical director as a result of the low case findings experienced thus far. However, the committee feels higher case findings cannot be obtained without a medical director who has the time, commitment and necessary background.

Again, this committee would like to emphasize the job description that was set forth in its 1983 report. Suggested prerequisites for the medical director are: MSMA member, experience in alcohol and drug dependency rehabilitation, and ten years of medical practice.

The job description includes all of the following:

- Responsible for all administrative activities of the Impaired Physician Program.
- Responsible for developing a panel of confronters.
- Meets with every physician referred to the Impaired Physician Program.
- Visit all licensed treatment facilities in Missouri.
- Maintain contact with physicians following completion of treatment program.
- Appear before each medical staff in Missouri hospitals seeking their cooperation and support.

- Develop a closer liaison with the Missouri Hospital Association, the Missouri Association for Osteopathic Physicians and Surgeons, and other appropriate state agencies.
- Contact pharmaceutical companies as to feasibility of establishing a treatment loan fund.
- Explore avenues to utilize physician services prior to reentry into private practice of medicine.
- Explore possibilities of obtaining grants.

The committee recommends a budget allocation of $150,000 for the Impaired Physician Program. The budget includes both salary and expenses for a medical director. The committee feels that this budget will attract physicians with the necessary background to conduct a vigorous and aggressive program.

The committee has met with the Missouri Pharmaceutical Association, Missouri Dental Association, Missouri Nurses' Association and Missouri Association of Osteopathic Physicians and Surgeons, to discuss their association's activity in implementing an Impaired Professional Program. It was felt that it would be advantageous to all concerned to enter into a cooperative arrangement of sharing a medical director and that it would be necessary to involve other members of the associations with the authority to commit their association financially in this sharing arrangement.

An attorney issued a memorandum regarding potential liability to the members of the MSMA Committee on the Impaired Physician. Section 537.035, RSMo 1978, provides as follows:

> No physician or surgeon licensed under the provisions of Chapter 334, RSMo . . . while acting, within their scope of practice, as an authorized member of a hospital review, medical review, . . . , or a peer review committee functioning for the sole purpose of maintaining the professional standards of those engaged in the practice of the above professions . . . shall be liable for damages to any person subject to the actions of the committee for any action taken or recommendation made by the commitee or by a person acting in his official capacity as a member of any such committee where such action or recommendation was made within the scope and function of the committee if such action or recommendation was made without malice and was supported by credible evidence upon consideration of the whole record.

This memorandum pointed out that tort immunity extends beyond duly licensed physicians and surgeons and extends to any person who reports such actions so long as the report is made within good faith; and based on probable cause.

For 1985, the committee has established its primary priority as education of the membership of MSMA about the Impaired Physician Program. There are many members of the MSMA that are not aware that the Association has such a program and this may attribute to the low case findings. This educational endeavor would include appearing before each medical staff of Missouri hospitals, conducting seminars in conjunction with the MSMA Auxiliary, and conducting statewide seminars for medical professionals.

Another priority of this committee is to identify additional sources of funding that will be utilized to defray the expenses for this program.

The committee expressed its support in the development of Caduceus Clubs in Missouri. These clubs provide an excellent supportive mechanism to Missouri's recovering physician.

William I. Stryker, *Chairman*
Philip J. LeFevre
John J. O'Hearne
David L. Ohlms
John P. Carmody
Joseph B. Kendis
Hugh C. Bartlett
Warford B. Johnson, II
Henry F. Domke
Donald McIntosh
Carl Pearman
Ms. Anne Fitzsimmons, Student

Committee on Publication

The eighty-first volume of Missouri Medicine was completed with the December 1984 issue. During the year, 12 issues were printed and distributed. Eleven of these issues contained scientific articles, special articles and features, organizational reports, monthly messages from the presidents of the MSMA and the editor, news from Missouri medical schools, listings of new members and Physician's Recognition Awards recipients, news items of interest to members of the medical profession and MSMA "Progress Notes."

The July issue also presented a summary of the meetings and actions taken by the House of Delegates at the 126th Annual Convention. The annual Directory-Membership Roster was published in August. The February and August issues included a directory of medical specialty organizations in Missouri.

The Executive Committee reappointed Jordan W. Burkey, M.D. of Springfield as editor.

There were three special issues of the *Journal*. The January issue featured articles by physicians at Ellis Fischel State Cancer Center. The scientific articles in the June issue were contributed by members of the faculty of the University of Missouri-Columbia and the scientific articles in the November issue were contributed by members of the faculty at the University of Missouri-Kansas City.

During the year, 45 scientific articles and 14 special articles and features were published. Most were written by Missouri authors.

The editors wish to express appreciation to all who submitted scientific manuscripts and to all other individuals, institutions and organizations for their valuable contributions. This especially includes the administrations, faculties and publications departments of the University of Missouri in Columbia and Kansas City, St. Louis University, Washington University and Ellis Fischel State Cancer Center.

The complete financial report for the 1984 *Journal* is included in the financial statement of the Missouri State Medical Association. The report is published in the March 1985 issue of Missouri Medicine and is included in the Delegates' Handbook. At year's end, journal circulation was 7,074.

Jordan W. Burkey, *Chairman*
J. Bruce Stoliar, Vice-Chairman
Donald E. Menchetti
Jerry W. Templer
John K. Layle
Earl R. Schultz

127th Annual Convention Exhibitors

ADR-ATL Ultrasound
St. Louis, Mo.

Adria Laboratories
Columbus, Ohio

Adrian N. Baker & Company
St. Louis, Mo.

American Business Machines Company
Springfield, Mo.

American Express Company
New York, N.Y.

Ames Division, Miles Laboratories, Inc.
Elkhart, Ind.

Automated Medical Systems, Inc.
Kansas City, Mo.

Blue Shield of St. Louis and Kansas City
St. Louis, Mo.

Boehringer Ingelheim, Ltd.
Ridgefield, Conn.

Burroughs Corporation
Kansas City, Mo.

Dairy Council
Kansas City, Mo.

Dodson Insurance Group
Kansas City, Mo.

Eastman Kodak Company
St. Louis, Mo.

Emissary
Gladstone, Mo.

Encyclopaedia Britannica USA
Chicago, Ill.

Ethicon, Inc.
Somerville, N.J.

Forrest T. Jones & Company, Inc.
Kansas City, Mo.

Fred S. James and Company of Missouri, Inc.
Kansas City, Mo.

Gene Switzer Antiques
Kansas City, Mo.

Glasrock Home Health Care
Kansas City, Mo.

Glaxo, Inc.
Dallas, Texas

Graylan Distributors
Baton Rouge, La.

Health Resources, Ltd.
Kansas City, Mo.

Hoechst-Roussel Pharmaceuticals, Inc.
Somerville, N.J.

Insurance Corporation of America
Houston, Texas

International Clinical Labs
St. Louis, Mo.

Janssen Pharmaceutica
Piscataway, N.J.

Johnston's Inc.
Shawnee, Kan.

Jung Medical Products
Cincinnati, Ohio

Keyamawun Lodge
Waterdown, Ontario, Canada

MSMA Retirement System/EF Hutton and Company
St. Louis, Mo.

Mallinckrodt
St. Louis, Mo.

Management Systems of Wausau, Inc.
Wausau, Wis.

Mead Johnson Nutritional Division
Overland Park, Kan.

Mead Johnson Pharmaceutical Division
Evansville, Ind.

Medical Business Associates, Inc.
Sedalia, Mo.

Medical Defense Associates
Springfield, Mo.

Medical Processing Systems, Inc.
Salt Lake City, Utah

The Medical Protective Company
Fort Wayne, Ind.

Merck Sharp & Dohme
West Point, Pa.

Metpath, Inc.
Watertown, Wis.

Metropolitan Business Sytems, Inc.
Kansas City, Mo.

Mid-America Computing, Inc.
Shawnee Mission, Kan.

Miles Pharmaceuticals
St. Louis, Mo.

Missouri Army National Guard
Jefferson City, Mo.

Missouri Department of Mental Health
Jefferson City, Mo.

Missouri Division of Health
Office of Personal Health Services
Jefferson City, Mo.

MOMEDICO
St. Louis, Mo.

Missouri Society of CPA's
St. Louis, Mo.

Exhibitor's Listing

(Continued from page 387)

Missouri State Medical Association
Jefferson City, Mo.

Pfizer Laboratories
Overland Park, Kan.

PR Services
Lenexa, Kan.

Purdue Frederick Company
Norwalk, Conn.

Riker Laboratories Inc./3M
St. Paul, Minn.

Risk Control Associates, Inc.
Springfield, Mo.

Roerig Division, Pfizer, Inc.
Shawnee Mission, Kan.

William H. Rorer, Inc.
Overland Park, Kan.

W. B. Saunders Company
Shawnee Mission, Kan.

Schering Laboratories
Kenilworth, N.J.

Searle Pharmaceuticals, Inc.
Chicago, Ill.

Smith Kline & French Laboratories
Philadelphia, Pa.

Social Security Administration
Kansas City, Mo.

Southern Medical Association
Birmingham, Ala.

Southwestern Bell Mobile Systems
Dallas, Texas

E. R. Squibb and Sons, Inc.
Princeton, N.J.

Stuart Pharmaceuticals
Wilmington, Del.

Transworld Systems, Inc.
Mission, Kan.

Upjohn Health Care Services
Kansas City, Mo.

United States Air Force
Overland Park, Kan.

United States Army Medical Department
Washington, D.C.

United States Navy
Kansas City, Mo.

Wallace Laboratories
Cranbury, N.J.

Missouri State Medical Foundation

Annual Meeting
Hyatt Regency Hotel, Kansas City
Friday, April 12, 1985

The Annual Meeting of the Missouri State Medical Foundation was called to order by Dr. Mary E. S. Case, vice-president.

The minutes of the 1984 Annual Meeting and the auditor's report ending December 31, 1984 were approved as published in Missouri Medicine.

Dr. Carl C. Pearman, chairman of the nominating committee, recommended that Dr. Max S. Franklin and Dr. Larry P. Courter each be reappointed to serve another five year term and Dr. Christopher H. Jung be appointed to serve a one year term. The ex-officio member of the Board will be Dr. Walter A. German, president of the Missouri State Medical Association. The nominating committee report was unanimously approved.

There being no further business, the Annual Meeting was adjourned.

Board of Trustees
Hyatt Regency Hotel, Kansas City
Friday, April 12, 1985

The meeting of the Board of Trustees of the Missouri State Medical Foundation was called to order by Dr. Mary E. S. Case, vice-president.

The nominating committee presented the following slate of officers who were elected by acclamation:

President — Miles C. Whitener, M.D., St. Louis
Vice-President — Mary E. S. Case, M.D., St. Louis
Secretary-Treasurer — Robert H. Tanner, M.D., Jefferson City.
Mr. Ron Ellison was reappointed Assistant Secretary.

Other members of the Board of Trustees are Dr. Max S. Franklin, St. Louis; Dr. Gary A. Dyer, St. Joseph; Dr. Carl C. Pearman, Joplin; Dr. Albert D. Cross, Trenton; Dr. Larry P. Courter, Jefferson City; Dr. Frederick W. Hahn, Kansas City; and Dr. Christopher H. Jung, Cape Girardeau.

It was noted that the contributions received by the Foundation in 1984 totalled $9,000, less than received in 1983.

There was considerable discussion on a mechanism to better inform the MSMA membership of the Foundation activities. It was recommended that this could be accomplished by having a closer working relationship with the Auxiliary and county medical societies.

It was agreed that the MSMA staff would develop a direct solicitation letter for the Foundation which will be included in future mailings to the MSMA membership.

There being no further business, the meeting was adjourned.

GIVE.

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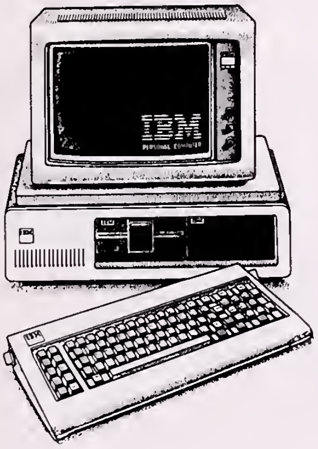

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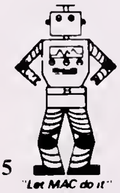

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Summary of Council Minutes

Meeting of April 1, 1984
Marriott's Pavilion, St. Louis

Dr. H. Peter Ekern was elected Chairman of the Council and thereby became the presiding officer. Dr. Larry G. Piepergerdes was elected Vice-Chairman of the Council, Dr. Jay Meyer was elected MSMA Treasurer, and Dr. Berry Ivy elected Secretary.

Meeting of June 3, 1984
Breckenridge on the Lake, Osage Beach

The Council approved submitting a bid to purchase the property adjacent to MSMA headquarters at 115 Madison Street, Jefferson City.

Approval was also given to a $2,500 expenditure to help fund an educational project of the Committee on the Impaired Physician.

Practice management workshops for residents and for office personnel, held in April and May, had a total attendance of 180.

It was reported that the Missouri State Allergy Association, the Missouri State Orthopaedic Association, the Missouri Society of Anesthesiologists, the Missouri Psychiatric Association, and the Missouri State Surgical Society were taking advantage of MSMA management services.

Following a report from Mrs. Richard P. Bowles, MSMA Auxiliary president, the Council approved a project to develop a poster promoting organ donation.

Medical Student Councilor M. Colette Schmidt reported that all MSMA Committees and Commissions now include a student member.

Dr. Richard Bradley's report from MOMEDICO stated that premium income was up by $40,000 from last year. From May 1983 to May 1984, the number of insureds rose from 1,415 to 1,606.

A resolution was adopted authorizing the Executive Committee and Dr. T. J. Cooper to entertain and review offers to purchase MSMA-owned MOMEDICO stock, with sales subject to approval by the Council and House of Delegates.

Following a presentation from a representative of American Physicians Life Insurance Company, the Council recommended that MSMA ask MSMI to consider purchasing APL stock and begin developing insurance plans for Association members. Additionally, it was recommended that a report be brought to the Council before final implementation of the program. A later recommendation asked that alternatives to purchasing APL stock also be explored, to provide the best insurance to members and the best profit for the MSMA.

MMPAC Chairman Dr. John Martin informed the Council that Missouri ranks fifth in the nation in number of PAC members per potential. MMPAC total membership stood at 1,572, or 25% of MSMA membership.

Councilors were reminded of Dr. George Thoma's bid for reelection to the AMA Council on Medical Education and were asked to support his candidacy.

Meeting of August 25, 1984
Holiday Inn, Lake of the Ozarks

The Missouri State Medical Foundation report indicated 147 applications have been received for a total request of $249,000. More and more women students are applying for Foundation loans.

The Council approved a four-year CME accreditation for the Kansas City Ophthalmology and Otolaryngology Society.

The Council was informed that Dr. Berry Ivy had been appointed to the Governor's Task Force on Health Care Costs as official representative of the Association.

It was reported that the MSMA was the successful bidder on the property at 115 Madison Street, Jefferson City.

The Impaired Physician conferences previously scheduled were cancelled and were to be rescheduled.

The Council voted to support Jackson County Medical Society's nomination of Mr. and Mrs. Ewing Kaufman for the 1985 AMA Citation to a Layman for Distinguished Service.

Dr. Bradley reported that MOMEDICO had moved into new offices in St. Louis, and was to open a field service office at MSMA headquarters in Jefferson City. He indicated that recent studies show 70%-80% of Missouri physicians are unaware of professional liability problems extant in their state.

A report from the Commission on Medical Economics, chaired by Dr. Nicholas Colosi, included a lengthy discussion of the new "participating/non-participating" designations for physicians under new Medicare rules. Among points made during the discussion were 1) that physicians should make their decisions after consulting with attorneys and/or accountants, 2) physicians should study the issue carefully before making a decision, and 3) that the AMA has voiced physician objections to the rules to HCFA.

Dr. David Wilkinson presented a report from the Commission on Medical-Legal Affairs. He reviewed the results of a meeting to consider establishing a coalition of various businesses and professions to seek reform of Missouri tort statutes relating to professional and product liability. Committees, made up of the representatives present, were appointed to develop and establish agendas to study the problem, then decide on action. The MSMA would be responsible for funding the meetings of the coalition. The Council accepted the report.

Dr. Melvin Kasten, AMA Delegate, presented his report from the June Annual Session. State associations that have 75% of their members also members of the AMA are now entitled to send an additional delegate and alternate to the sessions. Associations that require unified membership are also granted an additional delegate and alternate.

Dr. Kasten noted that all three resolutions submitted by the Missouri delegation, dealing with tort reform, chemical abuse and DRGs, were adopted.

Approval was given to a number of brochures and projects recommended for production by the Public Affairs Commission, along with their accompanying fiscal notes. These were a brochure on breast cancer treatment alternatives, a brochure on DRGs, a brochure on alternative plans for health insurance, and a seminar to help train physicians in dealing with the press.

Dr. T. J. Cooper reported the Missouri Patient Care Review Foundation had been granted the contract to be PRO for the state. The two-year contract carries a total operating budget of $9 million. Members of the Commission on Interspecialty Medicine have volunteered their expertise in "problem" cases before the PRO.

Dr. John Martin, with updated MMPAC figures, stated 28% of MSMA-AMA members are also PAC members, putting Missouri into fourth place in number of PAC members per total association membership.

Dr. William Bradshaw was recognized for his recent appointment as dean of the UMC School of Medicine, to serve a two-year term.

Dr. Jack Wiles was named chairman of the Key Contact Committee, replacing Dr. German, who stepped down due to his election to the office of president-elect.

Meeting of December 15, 1984
Ramada Inn, Jefferson City

MMPAC membership as of December 1, 1984, was reported at 1,566 regular and 201 sustaining members. It was reported that active membership in the Association had decreased. There were 1,252 AMA members who were not members of their state and local associations. These physicians will be contacted.

It was reported that a physician who recently won a summary judgment in a malpractice suit was willing to countersue the plaintiff and the plaintiff's attorney. MOMEDICO and the MSMA will share costs of pursuing the matter.

Dr. German, president-elect, has announced that he will attempt to visit every component society during his term.

Dr. William Stryker, committee chairman, presented a report from the Committee on the Impaired Physician. The report centered on the committee's belief that a full-time medical director is necessary to maintain a quality, effective program. In addition, a stronger educational thrust within the Association was advocated. The Council voted to authorize the Committee's investigation of the feasibility of hiring a full-time medical director, finding other sources of funding, and the possibility of establishing a conjoint program on impairment with other interested professional groups. A fiscal note of $150,000-$200,000, which the MSMA is *not* committed to expend, was attached.

The 1985 budget was approved.

Dr. Wiles, chairman of the Key Contact Committee, reported on the new project, PIP, or Physician Involvement Program, each week during the legislative session, a small group of physicians will be visiting Jefferson City, meeting with MSMA staff, then attending a session of the General Assembly to become involved directly with their legislators and the legislative process.

Several programs from the Committee on Planning were approved. These included formation of a Resident Physician Section, reinstitution of the MSMA Leadership Conferences, reinstitution of "Washington Visitations" to the U.S. capital, and greater promotion of the Impaired Physician Program and the Deferred Compensation Plan.

Dr. Bradley reported that MOMEDICO would make a profit of approximately $20,000 in 1984. He said the company had been successful in 19 out of 20 recent cases that went to trial.

CME accreditations were approved for the following: West Plains Memorial Hospital — 1 year; Boone County Medical Society — 3 years; Missouri State Orthopaedic Association — 1 year; St. Louis Society for Medical and Scientific Education — 4 years; St. Anthony Medical Center — 2 years; Buchanan County Medical Society — 3 years.

Resolutions were approved honoring Jean Duensing, managing editor of Missouri Medicine, and Edward Borman, executive secretary of the Missouri Association of Osteopathic Physicians and Surgeons, on their recent retirements.

February 2, 1985
Hilton Inn, Columbia

Following a report from AMA Trustee Dr. Hubert Ritter, the Council asked that the MSMA consider requiring unified membership. The AMA cannot continue to speak for "all of medicine" if physicians do not become members.

Approval was given to Mrs. Bowles' Auxiliary request to become part of the National Safety Council's Safety Coalition, of which the MSMA is part. Mrs. John Mitchell, Auxiliary legislative chairman, will be in charge of disseminating information from the Safety Council.

The Council approved a courtesy resolution from Clay-Platte Medical Society in honor of Mrs. William R. McPhee, president-elect of the AMA Auxiliary. The reappointment of Dr. Jordan Burkey, Missouri Medicine editor, was also approved.

PRO liaison Dr. T. J. Cooper told the Council that a problem has developed as a result of the prohibition against hospital admission for diagnostic testing. Some patients, forced to spend the night close to the hospital but 50 or 60 miles from home, are unable to afford the cost of lodging. The Council decided to take the matter under advisement, with no official action taken now.

After hearing the report of the Legislative Committee, the Council went on record as supporting legislation on comparative negligence, and as opposing legislation on licensure of lay midwives.

Dr. Stryker gave a report from the Committee on the Impaired Physician. He said representatives from the nursing, dental, pharmacy, and osteopathic professional organizations had met to discuss a conjoint program on impairment. It was agreed that funds were available from these organizations, but no commitments were made. Dr. Stryker said a search for a medical director was planned.

Dr. Marvin Singleton, reporting from the Action Committee to Negotiate with Third Parties and Hospitals, said the committee believes it can do a better job if its role as negotiator were more widely publicized. It plans to launch a program to achieve this goal. The report was accepted by the Council.

A report on HMOs, PPOs, FECs and satellite clinics, from the Commission on Medical Economics, Third Party Medicine and Governmental Relations, was accepted by the Council. This report is updated for 1985.

The Medical-Legal Commission report was also approved. Among items covered in this report were continuing work on the Coalition for Tort Reform and the availability of assistance for physicians who wish to countersue the plaintiff and plaintiff's attorney following successful defense of a malpractice suit.

The reappointment of Dr. Barbara Buchanan to the AMA Council on Long-Range Planning and Development was backed by the Council. Dr. Buchanan also suggested the Council support a sunsetting policy for the MSMA.

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Courtesy Resolution on Deceased Members

Stryker, Garold V., *Venice, Fla.*
Hudson, Gip Railey, *Huntsville*
Lange, Adolph C., *St. Louis*
Lorenzo, Remedios M., *Kansas City*
Vitt, Edwin F., *St. Louis*
Beckman, Donald E., *St. Louis*
Reitman, Stanley, *Chesterfield*
Craig, Owen W. D., *St. Joseph*
Kneal, Ellsworth, *St. Louis*
Hammler, Christiana V., *St. James*
Cone, A. J., *Chesterfield*
Nye, Robert S., *St. Louis*
Berenson, Sheldon E., *Kansas City*
Johnson, George L., *Springfield*
Fish, Richard Graham, *St. Louis*
Kaul, Philip Gibbs, *Kansas City*
Sexton, Elmer E., *St. Louis*
Korth, William M., *St. Petersburg, Fla.*
Reid, James A., *Bella Vista, Ark.*
Leuhrs, Robert O., *St. Louis*
Margolis, Richard M., *St. Louis*
O'Dowd, James A., *St. Louis*
Germuth, Frederick G., *Chesterfield*
Jones, J. Grey, *Blawenburg, N.J.*
Dierker, LeRoy J., *St. Louis*
Reinhardt, G. Robert, *Kansas City*
Yaeger, Gerald A., *St. Charles*
Marks, Mark M., *Kansas City*
Holbrook, Charles K., *Spanish Lake*
Berney, Francis J., *St. Joseph*
Atkinson, Thomas E., *Rogersville*
Wilson, Fred K., *Winston*
Leach, Jon R., *Bolivar*
Marienfield, Carl J., *Ashland*
McLean, Royal C., *St. Louis*
Leidinger, Karl J., *Republic*
Stamm, Howard W., *San Jose, Calif.*
Klippel, Bernhardt W., *St. Louis*
Melick, W. F., *St. Louis*
Hardwicke, Henry M., *Ashland*
Danis, Peter G., *St. Louis*
Kelling, Jordan A., *Waverly*
Fisher, Stanley D., *Sedalia*
Keim, J. Harry, *Cape Girardeau*
Ryan, John B., *Washington*
Tarvydas, Francis, *Edina*
Becker, Richard R., *Kansas City*
Scopelite, Joseph A., *Chesterfield*
Hallinger, Earl S., *St. Louis*
Brams, Jack B., *Kansas City*
Dunleavy, James D., *Kansas City*

WHEREAS, there have been 51 deaths among members since the 1984 Annual Convention, and

WHEREAS, each of these members is missed as an individual as well as for his/her contributions to the practice of medicine and to the Missouri State Medical Association, and

WHEREAS, the loss of each member is felt by all members, as well as his/her loved ones, and close associates and the patients he/she has served with dedication, therefore be it

RESOLVED, that the House of Delegates now pay personal tribute by standing for a moment of silence in memory of each of the 51 members we have lost and whose names will be recorded in the minutes of this Annual Convention.

Registration of the 127th Annual Convention

First Councilor District — 46

Andres, E. H., St. Joseph
Baker, W. C., St. Joseph
Bare, Edward F., Tarkio
Bowles, Richard P., Liberty
Burk, E. K., Liberty
Christ, Martin H., St. Joseph
Cooper, Barry R., N. Kansas City
Cross, Albert D., Trenton
Dixon, John R., Brookfield
Dunshee, R. E., Maryville
Dyer, Gary A., St. Joseph
Fakhoury, Donald A., Kansas City
Galvez, S. P., Marceline
Harr, Patrick B., Maryville
Hedges, Richard C., N. Kansas City
Kobbermann, T. W., N. Kansas City
Latimer, Walter N. A., Kansas City
Lila, Aram, Excelsior Springs
Littlejohn, Robert T., N. Kansas City
McCray, Stephen A., Gladstone
McPhee, W. R., Kansas City
Martin, John N., St. Joseph
Moen, B. H., St. Joseph
Mou, Bin, Nevada
Mullican, Charles, St. Joseph
Murphy, James A., St. Joseph
Myers, Carl M., Platte City
Nguyen, Helen, St. Joseph
Nixon, Edward E., Gallatin
Piontek, James F., Liberty
Redmond, William S., St. Joseph
Rockwell, Wayne L., Mission Hills
Saxon, Keith G., Liberty
Sklenar, Don, St. Joseph
Sodeman, Thomas, St. Joseph
Soper, William D., Liberty
Tobin, Robert, St. Joseph
Trinidad, H. R., Chillicothe
Triplett, Daniel A., N. Kansas City
Tumanut, Benesto, Kansas City
Vilmer, Stephen E., N. Kansas City
Werner, Dean F., Kansas City
Wheeler, Paul D., N. Kansas City
Wicks, Ed, Kansas City
Wolanski, E. G., St. Joseph
Yoon, Jin Soo, Chillicothe

Second Councilor District — 10

Ahad, K. A., Moberly
Barnett, F. A., Paris
Campbell, James E., Macon
Cohrs, C. C., Moberly
Fleming, J. Will, Moberly
Jayanandaiah, H. P., Hannibal
Kays, Ken, Moberly
Kruse, Carl R., Palmyra
Plowman, Edward M., Hannibal
Tompson, Robert V., Moberly

Third Councilor District — 124

Anglo, Luis B., St. Louis
Aronberg, Jerome, Clayton
Bailey, W. H., St. Louis
Banton, Milagros R., St. Louis
Banton, William C., St. Louis
Bardsley, John L., St. Louis
Bart, Gerald N., St. Louis
Bettonville, Paul J., Kirkwood
Biddy, Ralph L., St. Louis
Blythe, James, St. Louis
Bohigian, George M., St. Louis
Bolton, Robert L., St. Louis
Bowerman, Harold H., St. Louis
Bradley, Richard V., St. Louis
Brady, Harry, St. Louis
Buettner, Joan, St. Louis
Callaghan, Gerard M., St. Louis
Case, Mary E. S., St. Louis
Cohen, Robert S., St. Louis
Cole, Harry O., St. Louis
Cooper, Thomas J., St. Louis
Costello, Cyril, St. Louis
Dames, Richard J., St. Louis
Danis, Richard K., St. Louis
Debnam, James W., Chesterfield
Dehner, Jonathan D., St. Louis
DelMonte, Monte A., St. Louis
Duggan, John J., Jr., Kirkwood
Eachempati, Uma, St. Louis
Escoffery, Richard F., St. Louis
Fallon, Richard H., St. Louis
Fisher, Linda A., St. Louis
Flanigan, George D., St. Louis
Friedrich, Ernst R., St. Louis
Galakatos, Andrew E., St. Louis
Gandlmayr, Jack, St. Louis
Garney, William, St. Louis
Geise, August W., St. Louis
Gerowin, Lance, St. Louis
Gladney, John H., St. Louis
Gonzalez, Alicia, St. Louis
Graviss, R., St. Louis
Hasenmueller, James J., St. Louis
Hollo, Vencel W., St. Louis
Huck, R., St. Louis
Huffaker, William H., St. Louis
Hummel, William C., Creve Coeur
Ishida, Yasuo, St. Louis
Johnson, Mitchell, Florissant
Kass, Michael A., St. Louis
Kayes, Jack, St. Louis
Kolker, Allan E., St. Louis
Kreisman, J., St. Louis
L'Ecuyer, Jerome, St. Louis
Leightner, W., St. Louis
Lieb, Francis X., St. Louis
Lottes, J. Otto, St. Louis
McAdam, C. Rush, St. Louis
MacDonald, Robert R., Jr., St. Louis
Manion, Maria, St. Louis
Marshall, Jay, Chesterfield
Mendelsohn, G. E., Chesterfield
Meyer, Jay, St. Louis
Meyer, Melvin E., St. Louis
Michael, V. E., St. Louis
Middleton, Jerry, St. Louis
Mier, Thomas M., Columbia
Miller, Charles W., St. Louis
Montes, Arturo C., Florissant
Moran, Christopher, St. Louis
Moritz, Gerald, St. Louis
Mosquera, Jaime J., St. Louis
Mueller, Clarence E., Creve Coeur
Ohlms, David L., St. Louis
Onken, Henry D., St. Louis
Paletta, Theodore L., St. Louis
Pardo, Leopold, St. Louis
Pardo, Lourdes S., St. Louis
Perkins, David E., St. Louis
Peterson, Frederick D., St. Louis
Peterson, Gary J., St. Louis
Petruska, Paul J., St. Louis
Ponnuru, Bhaskara M., St. Louis
Purcell, John J., Jr., St. Louis
Quick, Richard, St. Louis
Redington, J. C., St. Louis
Reisler, David M., Chesterfield
Richards, Frank O., St. Louis
Ritter, Hubert A., St. Louis
Roberts, John P., St. Louis
Ryall, Jo-Ellyn M., St. Louis
Salmon, Mickey L., St. Louis
Sasser, W. F., St. Louis
Schmidt, Edwin, St. Louis
Schulman, Jeffrey I., St. Louis
Schwartz, Melvin, St. Louis
Schweiss, John F., St. Louis
Sicard, Gregorio A., St. Louis
Signorelli, A. J., St. Louis
Smith, Peter G., St. Louis
Steinberg, Franc, St. Louis
Stokes, James M., St. Louis
Stoneman, William, St. Louis
Stryker, William I., St. Louis
Suba, Antonio R., St. Louis
Tess, Allen, Florissant
Thoma, G. E., St. Louis
Thomas, J. Regan, St. Louis
Thurston, Don L., Glendale
Trotter, Francis O. Jr., Carrollton
Tucker, Dolores, St. Louis
Tucker, George L., Chesterfield
Valach, Frank J., St. Louis
Velasco, Ernest, St. Louis
Verde, Julian N., St. Louis
Wacker, Leo L., St. Louis
Walker, Harvey Jr., Clayton
Walz, Bruce, St. Louis
Whittico, James M., St. Louis
Wilkinson, David, St. Louis
Williams, Carol F., St. Louis
Wissner, Seth, St. Louis
Yates, Darrel, St. Louis
Yazdi, A. M., St. Louis

Fourth Councilor District — 12

Clever, Victor, St. Charles
Conoyer, J. Michael, St. Peters
Cusworth, Robert, St. Charles
Damron, Ed., Elsberry
DelPizzo, Ferdinand Jr., St. Charles
Mentel, J., St. Peters
Miles, Wayne B., St. Peters
O'Connor, John, Warrenton
Richardson, William R., Union
Rother, Paul H., St. Charles
Shaw, Jim, Hermann
Turner, James D., Washington

Fifth Councilor District — 71

Abernathie, Dennis, Columbia
Akhter, Mohammad N., Columbia
Allan, James E., Jefferson City
Allen, William C., Columbia
Alyea, J. O., Columbia
Anderson, P. C., Columbia
Anderson, T. R., Columbia
Barbee, Charles, Columbia
Bradshaw, William D., Columbia
Braun, Alan L., Jefferson City
Braunschweig, Ralph, Columbia
Brukardt, Diane, Columbia
Bucher, W. C., Columbia
Bumgarner, Roger, Columbia
Burns, Robert P., Columbia
Burns, T. W., Columbia
Cox, Curtis S., Jefferson City
Creech, Fred T., Mexico
Cunningham, Mila, Columbia
Davis, Leonard, Mexico
Denninghoff, James C., Columbia
Eggers, G. W. N., Jr., Columbia
Ekern, H. Peter, Mexico
Fotopoulos, C. K., Osage Beach
Fuchs, George J., Columbia
Gallagher, L. M., California
Garrett, Glen H., Columbia
Griffin, William, Columbia
Gunn, Victoria, Jefferson City
Hall, David G., Columbia
Heimburger, Richard, Columbia
Henry, Lawrence D., Jefferson City
Huq, Md Nasrul, Mexico
Ide, Carl H., Columbia
Jackson, Vernon B., Fulton
Kraybill, Bill, Columbia
Lankford, Harold D., Mexico
Leeper, Claude K., Columbia
Llorens, Alfred, Columbia

Matthews, John I., Jefferson City
Mier, James M., Jefferson City
Miller, Donald P., Jefferson City
Mitchell, F. L., Columbia
Moranville, B. A., Columbia
Murrell, Jerry, Columbia
Nichols, W. Kirt, Columbia
Nolph, Georgia B., Columbia
Perry, Michael, Columbia
Phillips, Steve, Columbia
Rall, Kenneth L., Columbia
Roller, James A., Columbia
Ross, Gilbert, Jr., Columbia
Ryan, Thomas J., Jefferson City
Scherr, David D., Jefferson City
Siu, Kenneth, Jefferson City
Stephenson, Hugh E., Columbia
Stewart, W. B., Columbia
Stuart, Byron M., Boonville
Tanner, R. H., Jefferson City
Taylor, Steve, Mexico
Templer, Jerry, Columbia
Thomas, Robert M., Columbia
Washburn, J. L., Versailles
Watts, Byron E., Jefferson City
Watts, Clark, Columbia
Weaver, Dana, Columbia
Weinstein, Stephen H., Columbia
Werth, Joseph A., Jefferson City
Wiggins, Roland L., Columbia
Wilson, George P., Columbia
Witten, David M., Columbia

Sixth Councilor District — 16

Campbell, A. J., Sedalia
Cole, William R., Smithton
Cook, Thomas, Richmond
Davault, G. K., Richmond
LaHue, W. C., Lexington
Magee, Robert, El Dorado Springs
Maxson, T. Reed, Warrensburg
Meyer, Jerry, Concordia
Miciano, Ruel T., Harrisonville
Price, Richard C., Harrisonville
Raynor, Richard, Marshall
Stockwood, R. C., Sedalia
Thies, Jerry, Osceola
Torontow, R. John, Nevada
Turner, William A., Nevada
Wheeler, Robert, Harrisonville

Seventh Councilor District — 165

Abdou, Nancy, Kansas City
Adelman, Arthur, Kansas City
Agee, Loren Glenn, Kansas City
Arbab, Ali, Kansas City
Arms, Arnold V., Leawood, KS
Asghar, M., Overland Park, KS
Bailey, Hugh R., Kansas City
Barelli, Pat A., Kansas City
Barry, William B., Kansas City
Batts, Barbara A., Kansas City
Bayer, William L., Kansas City
Beatty, Nina, Kansas City
Beck, Calvin E., Kansas City
Becker, Rolfe, Kansas City
Behrends, Steven H., Kansas City
Bickley, James, Kansas City
Bogart, Douglas B., Kansas City
Botwin, Arnold, Kansas City
Braby, Howard H., Independence
Braverman, David, Kansas City
Brown, Robert S., Kansas City
Bryan, William H., Kansas City
Buchanan, Barbara, Kansas City
Caffrey, R. J., Kansas City
Caldwell, John K., Kansas City
Campbell, John G., Kansas City
Caruso, Alfred A., Kansas City
Chandler, R. A., Kansas City
Childs, Donna, Kansas City
Colglazier, Mary C., Kansas City
Curts, Calvin J., Kansas City
Dall, Lawrence, Kansas City
Davidson, Ken C., Leawood, KS
Dixon, G. David, Kansas City
Dorzab, Bill, Kansas City
Duerksen, Joseph J., Shawnee Mission, KS
Durnell, M. D., Kansas City
Eaton, Paula, Kansas City
Engelman, Reinhold, Kansas City
Engelmann, Calvin, Kansas City
Everett, James E., Kansas City
Fee, Chester F., Kansas City
Fisher, James K., Leawood, KS
Fortin, David, Kansas City
Franklin, Curtis U., Kansas City
Gaitonde, M. R., Lee's Summit
Geha, Braham J., Kansas City
Gibbons, Bob, Prairie Village, KS
Ginsberg, Norman A., Kansas City
Goerz, Roy, Independence
Goodson, William H., Jr., Kansas City
Gordon, Stephen M., Kansas City
Griffith, John A., Kansas City
Grunt, Jerome A., Kansas City
Gwin, Todd D., Kansas City
Hagar, David L., Raytown
Hahn, Fred, Kansas City
Haight, J. Max, Kansas City
Hall, John C., Kansas City
Hannas, R. R., Kansas City
Hardacre, Ruth A., Kansas City
Hardy, John W., Kansas City
Harold, Ralph E., Independence
Harrin, William R., Kansas City
Hodgson, F. H., Kansas City
Hoech, George P., Jr., Kansas City
Hopkins, James P., Kansas City
Hughes, Mike, Kansas City
Huse, William J. II, Kansas City
Hustead, Russell M., Overland Park, KS
Johnson, Dallas, A., Kansas City
Johnson, Richard L., , Kansas City
Jonas, Harry S., Kansas City
Jones, Gale O., Shawnee Mission, KS
Jones, Samuel T., Kansas City
Judy, Bernard, Kansas City
Kahn, Marvin, Kansas City
Kanarek, Joseph, Kansas City
Kayanan, J. C., Kansas City
Kearines, Harold W., Kansas City
Keitges, P.W., Kansas City
Kelling, Douglas G., Overland Park, KS
Kelly, Charles R., Kansas City
Keltner, Raymond O., Kansas City
Kendall, F. H., Jr., Kansas City
Khoury, Cecile S., Leawood, KS
Kopp, Kenneth, Overland Park, KS
Kopperman, Mordecai, Kansas City
Kyger, John E., Independence
Lee, King Y., Kansas City
Levey, Harry B., Kansas City
Levine, Monroe I., Kansas City
Lichtor, Joseph, Kansas City
Long, Stacy, Kansas City
Loren, Michael, Independence
Lotuaco, Gamaliel, Kansas City
McCallister, Ben D., Kansas City
McCanse, Andrew, Kansas City
Masucci, Joseph, Kansas City
Matta, Camille, Kansas City
Medlicott, William J., Kansas City
Melgaard, S. Ross, Leawood, KS
Melia, B. J., Kansas City
Michelson, Richard, Kansas City
Migliazzo, Carl, Kansas City
Morantz, Robert, Kansas City
Moreano, Armado, Kansas City
Morgan, David B., Kansas City
Morris, Terry V., Independence
Mullen, Leo M., Kansas City
Mutchnick, Norman, Kansas City
Myron, Mark, Kansas City
Navato, Jose, Lee's Summit
Nelson, Richard E., Kansas City
O'Hearne, John J., Kansas City
Ost, Mark, Kansas City
Pardo, Lillian, Mission Hills, KS
Parkins, George K., Kansas City
Perico, C. J., Blue Springs
Peterson, W. R., Kansas City
Piebenga, L., Kansas City
Piepergerdes, Larry G., Kansas City
Place, K. Craig, Kansas City
Porter, Michael J., Shawnee Mission, KS
Potts, Donald A., Independence
Price, Patrick, Blue Springs
Pugh, R. E., Independence
Reister, Dorothy, Shawnee Mission, KS
Renner, John, Kansas City
Reynolds, James D., Kansas City
Richardson, Doug, Leawood, KS
Roberts, Fred, Kansas City
Roth, Alfred D., Mission, KS
Rues, Larry, Kansas City
Santoro, Carlos G., Kansas City
Sauer, Gordon, Kansas City
Schillie, Gene A., Kansas City
Schottman, G. W., Kansas City
Seshumurty, Ponnuru, Overland Park, KS
Shelden, Russell D., Kansas City
Siegel, Carl D., Kansas City
Simmons, D. D., Independence
Skillman, R. K., Kansas City
Smith, Shadrach, Kansas City
Stacey, W. R., Independence
Stelmach, W. Jack, Kansas City
Stout, Carl, Kansas City
Strauss, Carl F., Prairie Village, KS
Tella, Nalini, Kansas City
Throne, E. M., Kansas City
Trowbridge, B. C., Kansas City
Vogel, Arthur P., Shawnee Mission, KS
Volk, G. E., Leawood, KS
Welter, Eugene S., Lee's Summit
Wheeler, Charles, Kansas City
White, Chares H., Prairie Village, KS
White, James S., Kansas City
Williams, Joseph C., Kansas City
Willoughby, James W., Kansas City
Winer, Herbert J., Kansas City
Youll, Donald V., Kansas City
Youmans, Ronald A., Kansas City
Youngblood, James P., Kansas City
Ziemianski, Matthew, Kansas City
Zinn, Marcia, Shawnee Mission, KS

Eighth Councilor District — 66

Al-Shathir, S. M., Joplin
Ancheta, A. A., Springfield
Anderson, Paul B., Neosho
Apostol, Andres G., Monett
Ash, Charles, Springfield
Ashley, Thomas, Springfield
Bagby, Jack, Springfield
Bailey, A. H., Springfield
Barhnhill, Floyd, Rogersville
Bizek, Joseph L., Aurora
Brian, William J., Springfield
Burkey, J. W., Springfield
Cain, Alvin R., Lamar
Callaway, G. D., Jr., Springfield
Clarke, Michael S., Springfield
Clary, William F., Springfield
Cohle, Richard R., Carthage
Conrad, Raymond C., Springfield
Corry, F. M., Springfield
Dandridge, W. C., Jr., Joplin
Dillard, Erin M., Springfield
Dixon, Herbert K., Joplin
Domann, Darrel D., Springfield
Ferguson, John P., Springfield
Gaston, Sam, Joplin
Gentry, Michael A., Springfield
German, Walter A., Springfield
Gurian, Lawrence E., Springfield
Hall, David W., Rogersville
Hall, Durward G., Springfield
Hellam, Duane C., Springfield
Huewe, Douglas A., Springfield
Huffman, T. L., Branson
Hunsley, Perry U., Branson
Ivy, Berry, Springfield
Johnson, Joe C., Jr., Springfield
Key, James S., Springfield
LaFerriere, Keith A., Springfield
LeFevre, Philip J., Springfield
Lorenc, Ernest, Springfield
Lurie, Hal, Springfield
McAlhany, Howard J., Springfield
McCray, Glen M., Springfield
Macdonnell, T. M., Marshfield
Menchetti, Don, Springfield
Moseley, F. Thomas, Springfield
Mueller, Adolph R., Joplin
Neu, Leo T., Springfield
Pearman, Carl C., Joplin
Peterson, Stanley S., Springfield
Roberts, Howard, Joplin
Robinson, Gary, Springfield
Schwartz, E. J., Springfield
Shane, Ramon A., Springfield
Singleton, Marvin A., Joplin
Sullivan, Dan, Springfield
Sweeney, Thomas P., Springfield
Tombridge, Thomas, Springfield
Walker, William M., Rogersville
Wall, N. R., Springfield

Washburn, Kenneth B., Springfield
Whitlock, C. C., Springfield
Willcoxon, R., Springfield
Winsky, Arlen D., Springfield
Wolfe, James B., Springfield
Wooldridge, Wilfred E., Springfield

Ninth Councilor District — 7

Barbe, David O., Mountain Grove
Bartlett, Hugh, Rolla
Grannemann, H. Neal, Rolla
Hasek, James A., Mountain Grove
Moore, Michael R., West Plains
Wall, Joe A., Houston
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Mulligan, Michael E., Kansas City
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Siegfried, Carla, Kansas City
Yazdi, Paul, St. Louis

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Blankenship, Marshall, Oak Lawn
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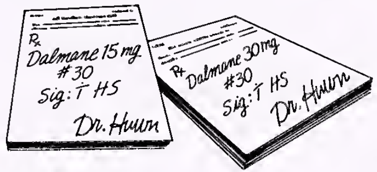

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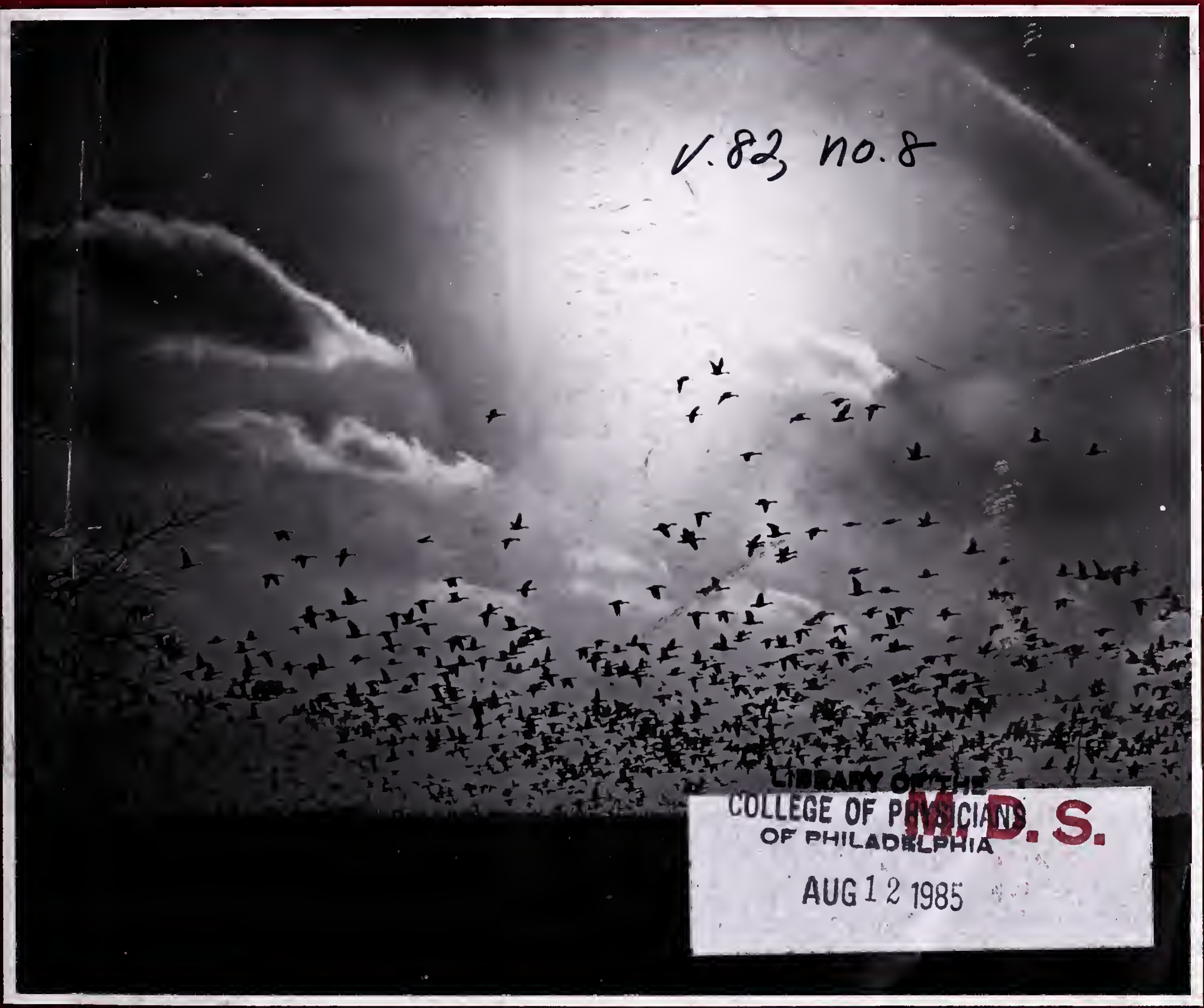

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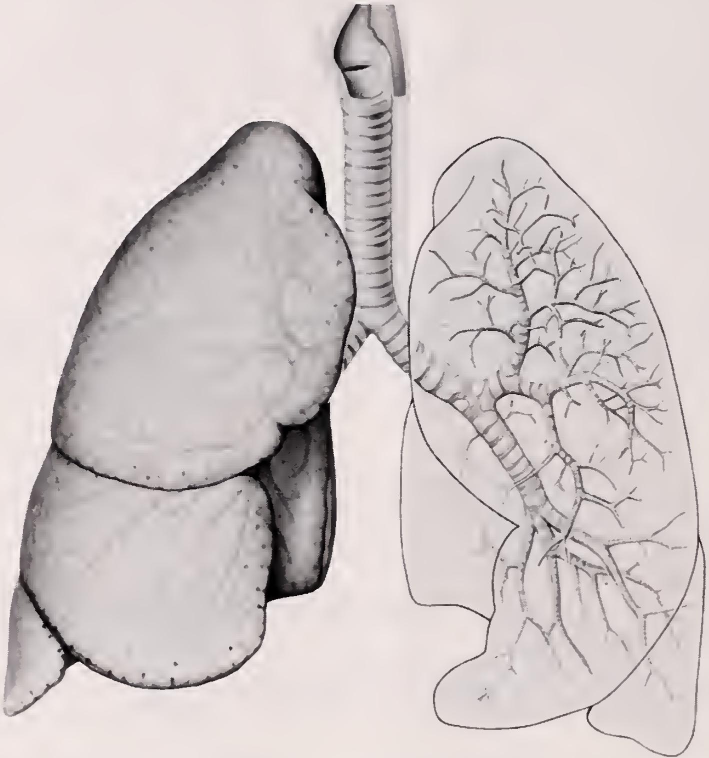
Consider the causative organisms…



Ceclor®
cefaclor
250-mg Pulvules® t.i.d.

offers effectiveness against the major causes of bacterial bronchitis

H. influenzae, (ampicillin-susceptible) *H. influenzae*, (ampicillin-resistant) *S. pneumoniae*, *S. pyogenes*

Brief Summary Consult the package literature for prescribing information

Indications and Usage Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae) Haemophilus influenzae* and *S pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides semisynthetic penicillins and cephalosporins) therefore it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy appropriate bacteriologic studies, and fluid electrolyte and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C difficile* Other causes of colitis should be ruled out

Precautions *General Precautions* — If an allergic reaction to Ceclor® (cefaclor, Lilly) occurs, the drug should be discontinued, and, if necessary the patient should be treated with appropriate agents, e g , pressor amines antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease particularly colitis

Usage in Pregnancy — Pregnancy Category B — Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor® (cefaclor, Lilly) There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers — Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0 18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor is administered to a nursing woman

Usage in Children — Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and frequently, fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain — Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology they are listed below to serve as alerting information for the physician

Hepatic — Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic — Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal — Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[061782R]

Note Ceclor® (cefaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

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MSMA Progress Notes

Mary Kay McPhee takes the helm at AMA Auxiliary

"As members of the American Medical Association Auxiliary, we are today, to a degree far greater than at any other time, a powerful factor in the nation's health care equation," says Mary Kay McPhee, 1985-86 president of the AMA Auxiliary.

Mrs. William R. McPhee, Kansas City, took office as president of the AMA Auxiliary on June 19 at their Annual Convention in Chicago, Illinois.

According to Mrs. McPhee, "Auxiliary concern is tri-level and encompasses the needs of those in our communities, the needs of our members and those of our challenged profession."

Mrs. McPhee stated that the organizational goals for the coming year include promoting the cost-effective benefits of preventive health care; broadening members' knowledge and participation in health-related legislation; raising funds for quality medical education and research; and stressing the benefits of belonging to a nationwide network of volunteers. ■

I.C. System set new record for collection of debts

For the third consecutive month, I.C. System has established a new record for the amount of debts collected for their clients. In May, the Company went over the $7 million mark for the first time, when gross collections totaled $7,187,206. This is 15% more than the collection made in May 1984. It also represents a gain of $375,000 over the next highest month, which was April 1985.

The single most important reason for this recent growth in collection effectiveness is that I.C. System has increased the size and the effectiveness of its collection departments. In the past nine months, the number of collectors has risen 50%. There are now 110 employees in the collection departments. An additional eight collector positions will be added to the staff by the year's end.

I.C. System, Inc., is the only national association service company in the collection business and is approved by the Missouri State Medical Association. For more information, write I.C. System, Inc., 444 East Highway 96, P.O. Box 43444, St. Paul, MN 55164. ■

Public image of MDs continues to decline

Physicians' public image continues to decline in socioeconomic areas, especially fees and income, according to a report of the Council on Long Range Planning and Development that was filed by the AMA House of Delegates.

Based on telephone interviews with 1,000 physicians and 1,500 randomly selected adults, the report said that in 1984, 67% of the public said that 'most doctors are too interested in making money,' an increase of seven points since 1982. Only 27% of the public believed that physicians' fees were reasonable, a drop from 42% in 1982. In addition, the percentage of the public that agreed physicians took a genuine interest in their patients has declined from 68% in 1982 to 62% in 1984.

As compared with 55% in 1982, only 44% of the respondents in 1984 agreed that physicians usually explained things well to their patients. The public's views toward physicians' scientific knowledge remain strongly positive, however. Seventy-one percent of the public respondents said they agreed with the statement that physicians usually were up-to-date on the latest advances in medicine.

The public respondents' image of their personal physicians was sharply better than their image of physicians as a group. For example, only 32% of the 1983 respondents indicated that physicians' fees in general were reasonable, while 71% expressed the view that their personal physician's fees were reasonable. The data were collected by AMA Survey and Opinion Research, Larry J. Freshnock, PhD, director. ■

Jury rejects suit, says Bendectin safe

A jury rejected a $13 Million lawsuit alleging Bendectin caused birth defects in a boy whose mother took the anti-nausea drug to treat morning sickness.

"The decision should discourage the filing of any new cases," said attorney Robert L. Dickson, representing Merrill Dow Pharmaceuticals USA, which produced the drug. "Every conceivable issue that could be raised was raised, and we proved without a doubt that Bendectin is safe."

Merrill Dow ceased production of Bendectin in June 1983, after adverse publicity and congressional investigations on the safety of the drug. Bendectin was used by 33 million pregnant women before it was taken off the market.

In March, a jury in Cincinnati ruled that Bendectin did not cause birth defects. In two previous trials, judgments also favored Merrill Dow. Mr. Dickson said 400 to 500 cases are pending nationally. ■

PHYSICIAN ADVERTISING

Toward an MSMA public relations policy

Much attention has focused recently on the public image of physicians and the role your state medical association can play in promoting a positive physician image in the community.

The MSMA Commission on Public Affairs wants to hear from you on this vital issue. Based in part on response to this questionnaire, the MSMA will be formulating a formal public relations policy.

Public relations may take various forms. So-called "free" public relations comes from public service messages, patient handouts in the office, and simple news items about physicians. The MSMA is now engaged in a number of these "free" outlets. Publication, of course, is up to the news editor's discretion in this plan.

"Paid" public relations may also be called advertising. By buying time on the electronic media and space in the print media, the Association would attempt to place a positive message about its members before the public. This type of plan can be highly effective, but it also comes with a high price tag. The Los Angeles County Medical Association, for example, is considering a plan that will cost them $8.3 million this year alone.

WHAT DO YOU THINK? Could the Association benefit from a paid advertising campaign? Would you be willing to pay an additional assessment to support it? Or should the Association continue with its current program of non-paid public relations, perhaps expanded or modified?

Please take a moment to complete and return this questionnaire. The results will help determine your Association's public relations policy in the years to come.

QUESTIONNAIRE

Complete and return to: MSMA, Public Affairs Survey, P.O. Box 1028, Jefferson City, MO 65102

(Please answer yes or no)	YES	NO
1. Should the MSMA begin a paid public relations program?		
2. Do you use patient information materials in your practice?		
3. Would you support a separate assessment to fund a paid PR program?		
4. Do you now or have you ever paid for an advertisement to promote your practice?		

(Please check the statement that most closely matches your opinion on these items)

	strongly agree	agree	neutral	disagree	strongly disagree
1. The MSMA should stay out of paid PR altogether.					
2. The current non-paid program of PR is effective.					
3. Physicians must have aggressive promotion in the media to combat negative press about them.					
4. My patients would view me in a more positive light if the MSMA began promoting physician image.					
5. The whole idea of physician advertising makes me uncomfortable; it isn't ethical.					

(Please check the major points you believe the MSMA policy should address, whether in a paid or non-paid program. Check as many as you wish.)

1. Promotion of positive physician image; physician as friend and confidant.
2. Promotion of "wellness"; staying well with physician's help.
3. Promotion of close physician-patient relationship.
4. Opposition to new health care plans.
5. Patient information on general health topics, physician training, etc.
6. Information on controlling health care costs.
7. Promotion of public awareness of social issues, such as malpractice insurance, Medicare, Medicaid, etc.
8. Other (please specify) ______________________________

What suggestions or comments do you have for an MSMA public relations policy?

DEMOGRAPHIC INFORMATION

Number of years I have practiced:
☐ 0-10 ☐ 10-20 ☐ 20-30
☐ 30-40 ☐ 40-plus

I characterize my practice as predominantly
☐ Rural ☐ Urban ☐ Suburban

Number of physicians in my practice: ☐ 1 ☐ 2 ☐ 3 or more

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1985-1986

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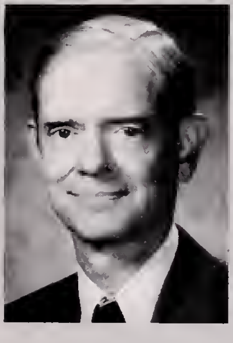

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THE PURPOSE of this Association is the promotion of the science and art of medicine, the protection of public health, the betterment of the medical profession, the organization of its membership for negotiation and collective bargaining purposes, and, by uniting with similar organizations in other states and territories of the United States, to form the American Medical Association.

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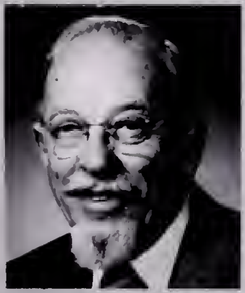
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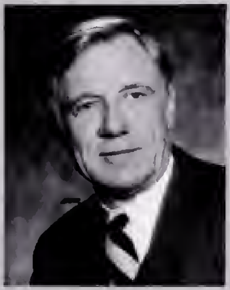
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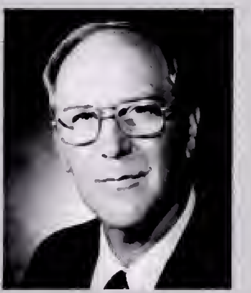
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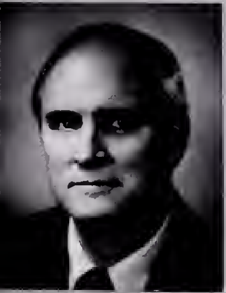
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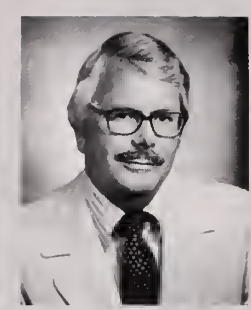
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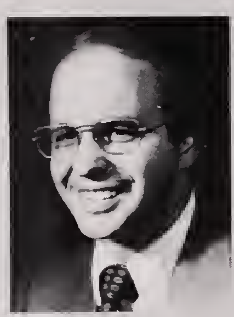
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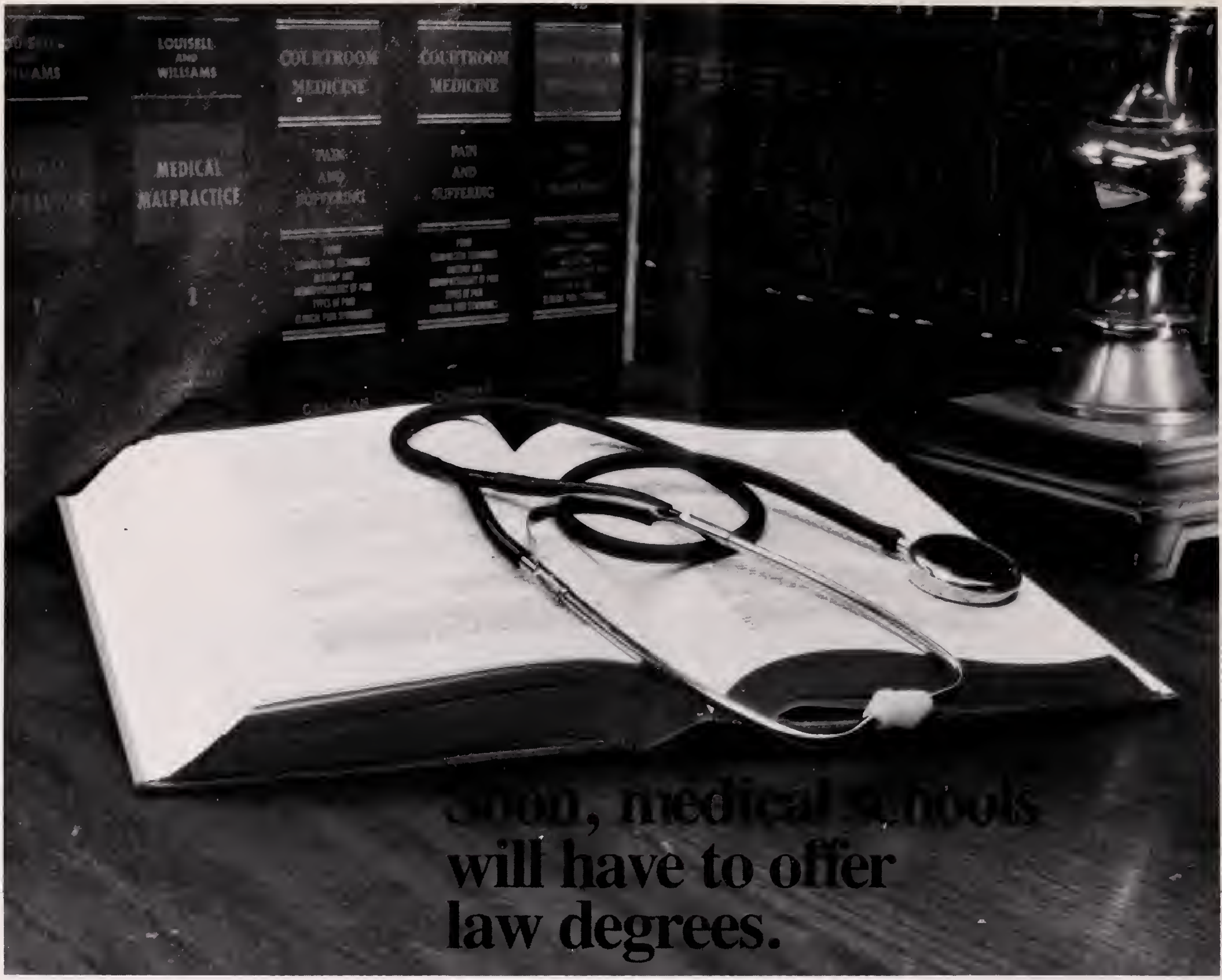

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for Component Medical Societies

Code	*Society*	*Page*
010	Andrew	479
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Help for the Impaired Physician.

Through its Committee on Impaired Physicians, MSNJ helps doctors who are suffering from alcoholism, other drug addiction, psychiatric disorders, or senility. The thrust of the program is rehabilitative, not punitive. The Committee is composed of physicians who have special expertise in these areas, some from personal experience. Effective treatment for these illnesses is achieved most easily when the disease is detected early and family, friends, and associates are urged to avoid misguided sympathy which enables the condition to deteriorate.

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Designated Specialty Codes

The following specialties are recognized by the American Medical Association.

A	Allergy
ABS	Abdominal Surgery
ADL	Adolescent Medicine
AI	Allergy and Immunology
AM	Aerospace Medicine
AN	Anesthesiology
BE	Broncho-Esophagology
BLB	Bloodbanking
CD	Cardiovascular Diseases
CDS	Cardiovascular Surgery
CHN	Child Neurology
CHP	Child Psychiatry
CLP	Clinical Pathology
CRS	Colon and Rectal Surgery
D	Dermatology
DIA	Diabetes
DMP	Dermatopathology
DR	Diagnostic Radiology
EM	Emergency Medicine
END	Endocrinology
FOP	Forensic Pathology
FP	Family Practice
GE	Gastroenterology
GER	Geriatrics
GP	General Practice
GPM	General Preventive Medicine
GS	General Surgery
GYN	Gynecology
HEM	Hematology
HNS	Head and Neck Surgery
HS	Hand Surgery
HYP	Hypnosis
ID	Infectious Diseases
IG	Immunology
IM	Internal Medicine
LAR	Laryngology
LM	Legal Medicine
MFS	Maxillofacial Surgery
N	Neurology
NA	Neuropathology
ND	Neoplastic Diseases
NEP	Nephrology
NM	Nuclear Medicine
NPM	Neonatal-Perinatal Medicine
NR	Nuclear Radiology
NS	Neurological Surgery
NTR	Nutrition
OBG	Obstetrics and Gynecology
OBS	Obstetrics
OM	Occupational Medicine
ON	Oncology
OPH	Ophthalmology
ORS	Orthopedic Surgery
OS	Other, i.e., physician designated a specialty other than appearing here.
OT	Otology
OTO	Otorhinolaryngology
P	Psychiatry
PA	Clinical Pharmacology
PD	Pediatrics
PDA	Pediatric Allergy
PDC	Pediatric Cardiology
PDE	Pediatric Endocrinology
PDR	Pediatric Radiology
PDS	Pediatric Surgery
PH	Public Health
PHO	Pediatric Hematology-Oncology
PM	Physical Medicine and Rehabilitation
PNP	Pediatric Nephrology
PS	Plastic Surgery
PSF	Facial Plastic Surgery
PTH	Pathology
PUD	Pulmonary Diseases
PYA	Psychoanalysis
PYM	Psychosomatic Medicine
R	Radiology
RHI	Rhinology
RHU	Rheumatology
RIP	Radioisotopic Radiology
TR	Therapeutic Radiology
TRS	Traumatic Surgery
TS	Thoracic Surgery
U	Urological Surgery

Note: No code will appear for those physicians who have not designated a specialty.

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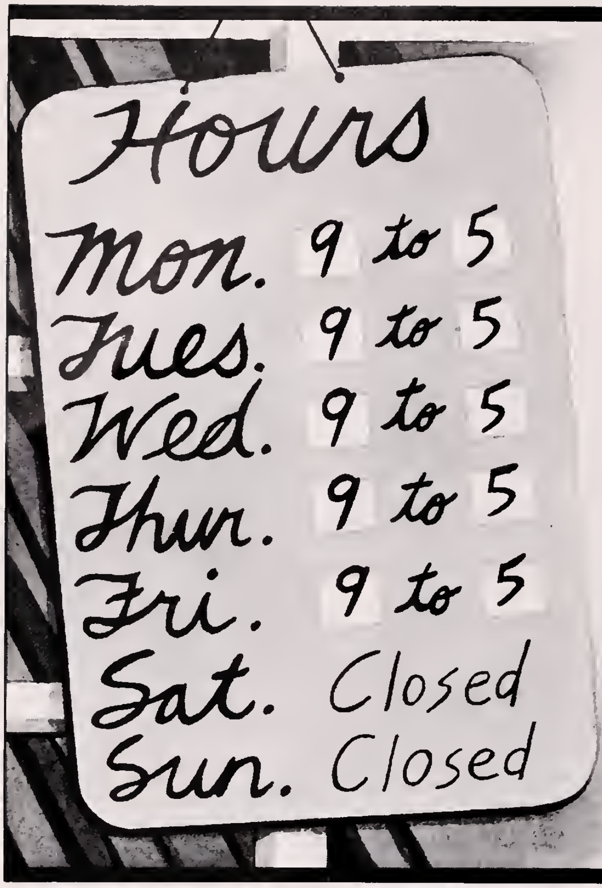

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balances potent coronary vasodilation with a low incidence of side effects

Low incidence of side effects
CARDIZEM® (diltiazem HCl) produces an incidence of adverse reactions not greater than that reported with placebo therapy, thus contributing to the patient's sense of well-being.

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42% to 46% decrease reported in multicenter study.[1]

Increases exercise tolerance*
In Bruce exercise test,[2] control patients averaged 8.0 minutes to onset of pain; Cardizem patients averaged 9.8 minutes ($P<.005$).

CARDIZEM®
(diltiazem HCl)

THE BALANCED CALCIUM CHANNEL BLOCKER

Please see full prescribing information on following page.

2/84

*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

References:
1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

PROFESSIONAL USE INFORMATION

cardizem®
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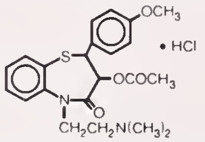
30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+) -cis-. The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy**—CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

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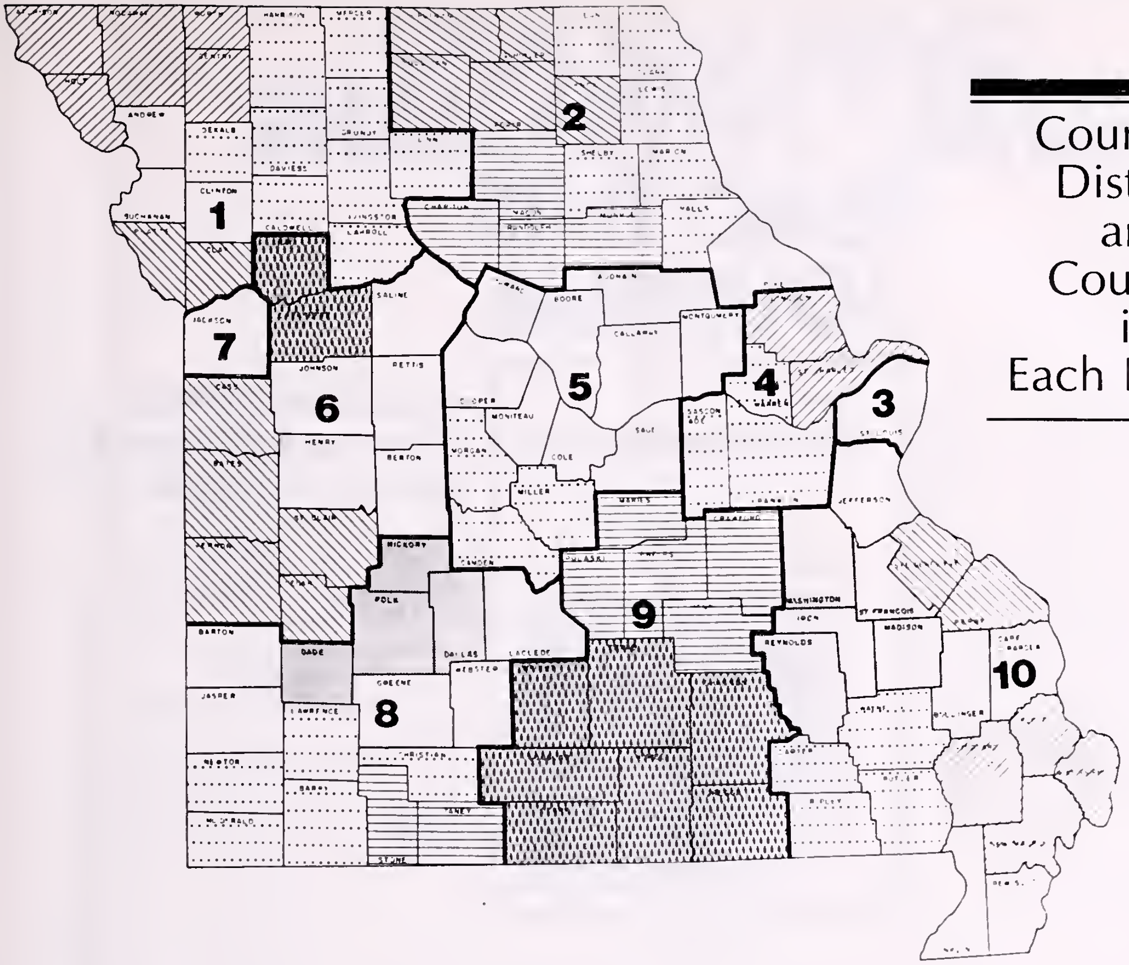

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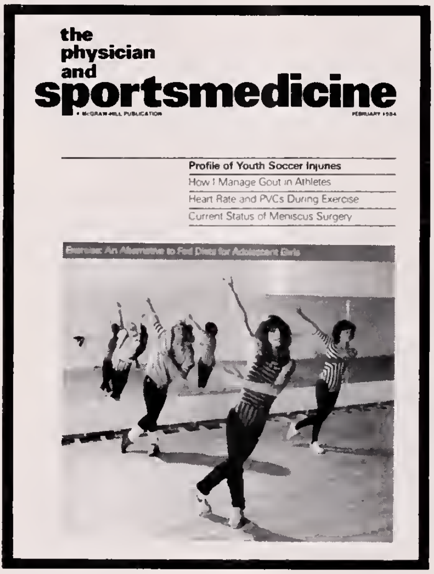

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Guide to Component Medical Societies

Following is a list of Missouri communities in which MSMA member-physicians are in active practice or reside. Name of the community is followed by the county in which it is located and the medical society to which physicians of that community normally would belong.

Town	*County*	*Medical Society*
A		
Advance	Stoddard	SEMO
Affton	St. Louis	St. Louis Metropolitan
Albany	Gentry	Northwest Missouri
Altenburg	Perry	Perry-Ste. Genevieve
Appleton City	St. Clair	West Central
Arnold	Jefferson	Jefferson
Arrow Rock	Saline	Saline
Ashland	Boone	Boone
Augusta	St. Charles	St. Charles-Lincoln
Aurora	Lawrence	Ozarks
Ava	Douglas	South Central
B		
Ballwin	St. Louis	St. Louis Metropolitan
Bethany	Harrison	Grand River
Blue Springs	Jackson	Jackson
Bolivar	Polk	Dallas-Hickory-Polk-Dade
Bonne Terre	St. Francois	Mineral Area
Boonville	Cooper	Cooper
Branson	Taney	Tri-Lakes
Brentwood	St. Louis	St. Louis Metropolitan
Bridgeton	St. Louis	St. Louis Metropolitan
Brookfield	Linn	Grand River
Brunswick	Chariton	Chariton-Macon-Monroe-Randolph
Buffalo	Dallas	Dallas-Hickory-Polk-Dade
Butler	Bates	West Central
C		
Cabool	Texas	South Central
Cainsville	Harrison	Grand River
California	Moniteau	Moniteau
Camdenton	Camden	Lake of the Ozarks
Cape Girardeau	Cape Girardeau	Cape Girardeau
Cardwell	Dunklin	Dunklin
Carrollton	Carroll	Grand River
Carthage	Jasper	Jasper
Caruthersville	Pemiscot	Pemiscot
Cassville	Barry	Ozarks
Centralia	Boone	Boone
Charlack	St. Louis	St. Louis Metropolitan
Charleston	Mississippi	SEMO
Chesterfield	St. Louis	St. Louis Metropolitan
Chillicothe	Livingston	Grand River
Clayton	St. Louis	St. Louis Metropolitan
Climax Springs	Camden	Lake of the Ozarks
Clinton	Henry	Henry
Columbia	Boone	Boone
Concordia	Lafayette	Lafayette-Ray
Crestwood	St. Louis	St. Louis Metropolitan
Creve Coeur	St. Louis	St. Louis Metropolitan
Crystal City	Jefferson	Jefferson
Cuba	Crawford	Mid-Missouri
D		
Deepwater	Henry	Henry
Desloge	St. Francois	Mineral Area
DeSoto	Jefferson	Jefferson
Dexter	Stoddard	SEMO
Doniphan	Ripley	Butler-Wayne-Ripley-Carter

Town	*County*	*Medical Society*
E		
East Prairie	Mississippi	SEMO
Edina	Knox	North Central
Eldon	Miller	Lake of the Ozarks
El Dorado Springs	Cedar	West Central
Ellington	Reynolds	Mineral Area
Ellisville	St. Louis	St. Louis Metropolitan
Elsberry	Lincoln	St. Charles-Lincoln
Eureka	St. Louis	St. Louis Metropolitan
Excelsior Springs	Clay	Clay-Platte
F		
Fairdealing	Ripley	Butler-Wayne-Ripley-Carter
Fairfax	Atchison	Northwest Missouri
Farber	Audrain	Audrain
Farmington	St. Francois	Mineral Area
Fayette	Howard	Howard
Fenton	St. Louis	St. Louis Metropolitan
Ferguson	St. Louis	St. Louis Metropolitan
Festus	Jefferson	Jefferson
Flat River	St. Francois	Mineral Area
Florissant	St. Louis	St. Louis Metropolitan
Fordland	Webster	Webster
Forsyth	Taney	Tri-Lakes
Fort Leonard Wood	Pulaski	Mid-Missouri
Fredericktown	Madison	Mineral Area
Frontenac	St. Louis	St. Louis Metropolitan
Fulton	Callaway	Callaway
G		
Galena	Jackson	Jackson
Gallatin	Daviess	Grand River
Gladstone	Clay	Clay-Platte
Glasgow	Howard	Howard
Glendale	St. Louis	St. Louis Metropolitan
Grandview	Jackson	Jackson
Grant City	Worth	Northwest
Greenwood	Jackson	Jackson
H		
Hamilton	Caldwell	Grand River
Hannibal	Marion	Marrion-Ralls-Shelby
Harrisburg	Boone	Boone
Harrisonville	Cass	West Central
Hartsburg	Boone	Boone
Hayti	Pemiscot	Pemiscot
Hazelwood	St. Louis	St. Louis Metropolitan
Herculaneum	Jefferson	Jefferson
Hermann	Gasconade	Franklin-Gasconade-Warren
Higginsville	Lafayette	Lafayette-Ray
High Ridge	St. Louis	St. Louis Metropolitan
Hillsboro	Jefferson	Jefferson
Holden	Johnson	Johnson
Holts Summit	Callaway	Callaway
Hornersville	Dunklin	Dunklin
House Springs	St. Louis	St. Louis Metropolitan
Houston	Texas	South Central
Huntsville	Randolph	Chariton-Macon-Monroe-Randolph

Town	*County*	*Medical Society*
I		
Independence	Jackson	Jackson
Ironton	Iron	Mineral Area
J		
Jackson	Cape Girardeau	Cape Girardeau
Jefferson City	Cole	Cole
Joplin	Jasper	Jasper
K		
Kansas City	Jackson	Jackson
Kennett	Dunklin	Dunklin
Kimberling City	Stone	Tri-Lakes
Kirksville	Adair	North Central
Kirkwood	St. Louis	St. Louis Metropolitan
Knob Noster	Johnson	Johnson
L		
LaGrange	Lewis	Northeast
Lamar	Barton	Barton
Lebanon	Laclede	Laclede
Lee's Summit	Jackson	Jackson
Lemay	St. Louis	St. Louis Metropolitan
Lexington	Lafayette	Lafayette-Ray
Liberty	Clay	Clay-Platte
Linn	Osage	Cole
Louisiana	Pike	Pike
Lutesville	Bollinger	Mineral Area
M		
Macon	Macon	Chariton-Macon-Monroe-Randolph
Malden	Dunklin	Dunklin
Manchester	St. Louis	St. Louis Metropolitan
Mansfield	Wright	South Central
Maplewood	St. Louis	St. Louis Metropolitan
Marceline	Linn	Grand River
Marionville	Lawrence	Ozarks
Marshall	Saline	Saline
Marshfield	Webster	Webster
Marthasville	Warren	Franklin-Gasconade-Warren
Maryland Heights	St. Louis	St. Louis Metropolitan
Maryville	Nodaway	Northwest Missouri
Mexico	Audrain	Audrain
Moberly	Randolph	Chariton-Macon-Monroe-Randolph
Monett	Barry	Ozarks
Monroe City	Monroe	Chariton-Macon-Monroe-Randolph
Mound City	Holt	Northwest Missouri
Mount Vernon	Lawrence	Ozarks
Mountain Grove	Wright	South Central
N		
Neosho	Newton	Ozarks
Nevada	Vernon	West Central
New Haven	Franklin	Franklin-Gasconade-Warren
New London	Ralls	Northeast
Nixa	Christian	Ozarks
Normandy	St. Louis	St. Louis Metropolitan
North Kansas City	Clay	Clay-Platte
O		
Oak Grove	Jackson	Jackson
Odessa	Lafayette	Lafayette-Ray
O'Fallon	St. Charles	St. Charles-Lincoln
Osage Beach	Camden	Lake of the Ozarks
Osceola	St. Clair	West Central
Overland	St. Louis	St. Louis Metropolitan
Owensville	Gasconade	Franklin-Gasconade-Warren
P		
Pacific	Franklin	Franklin-Gasconade-Warren
Palmyra	Marion	Northeast
Paris	Monroe	Chariton-Macon-Monroe-Randolph
Parkville	Platte	Clay-Platte
Perryville	Perry	Perry-Ste. Genevieve
Pierce City	Lawrence	Ozarks
Platte City	Platte	Clay-Platte

Town	*County*	*Medical Society*
Plattsburg	Clinton	Clinton
Pleasant Hill	Cass	West Central
Poplar Bluff	Butler	Butler-Wayne-Ripley-Carter
Portageville	New Madrid	SEMO
Potosi	Washington	Mineral Area
Puxico	Stoddard	SEMO
R		
Raymore	Cass	West Central
Raytown	Jackson	Jackson
Reeds Spring	Stone	Tri-Lakes
Republic	Greene	Greene
Richland	Pulaski	Mid-Missouri
Richmond	Ray	Lafayette-Ray
Richmond Heights	St. Louis	St. Louis Metropolitan
Rocheport	Boone	Boone
Rock Port	Atchison	Northwest
Rogersville	Webster	Webster
Rolla	Phelps	Mid-Missouri
Rosendale	Andrew	Andrew
S		
St. Ann	St. Louis	St. Louis Metropolitan
St. Charles	St. Charles	St. Charles-Lincoln
St. Clair	Franklin	Franklin-Gasconade-Warren
Ste. Genevieve	Ste. Genevieve	Perry-Ste. Genevieve
St. Joseph	Buchanan	Buchanan
St. Louis	St. Louis	St. Louis Metropolitan
St. Peters	St. Charles	St. Charles-Lincoln
Salem	Dent	Mid-Missouri
Sarcoxie	Jasper	Jasper
Savannah	Andrew	Andrew
Sedalia	Pettis	Pettis
Shelbina	Shelby	Northeast
Shell Knob	Barry	Ozarks
Shrewsbury	St. Louis	St. Louis Metropolitan
Sikeston	Scott	SEMO
Slater	Saline	Saline
Smithton	Pettis	Pettis
Smithville	Clay	Clay-Platte
Springfield	Greene	Greene
Stanberry	Gentry	Northwest
Steelville	Crawford	Mid-Missouri
Strafford	Greene	Greene
Sullivan	Franklin	Franklin-Gasconade-Warren
Sweet Springs	Saline	Saline
T		
Tarkio	Atchison	Northwest
Thayer	Oregon	South Central
Town and Country	St. Louis	St. Louis
Trenton	Grundy	Grand River
Troy	Lincoln	St. Charles-Lincoln
U		
Union	Franklin	Franklin-Gasconade-Warren
University City	St. Louis	St. Louis Metropolitan
V		
Valley Park	St. Louis	St. Louis Metropolitan
Van Buren	Carter	Butler-Wayne-Ripley-Carter
Versailles	Morgan	Lake of the Ozarks
W		
Warrensburg	Johnson	Johnson
Warrenton	Warren	Franklin-Gasconade-Warren
Washington	Franklin	Franklin-Gasconade-Warren
Waverly	Lafayette	Lafayette-Ray
Waynesville	Pulaski	Mid-Missouri
Webb City	Jasper	Jasper
Webster Groves	St. Louis	St. Louis Metropolitan
Wellsville	Montgomery	Montgomery
Wentzville	St. Charles	St. Charles-Lincoln
Weston	Platte	Clay-Platte
West Plains	Howell	South Central
Williamsville	Wayne	Butler-Wayne-Ripley
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Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of Dyrenium (triamterene, SK&F CO.) and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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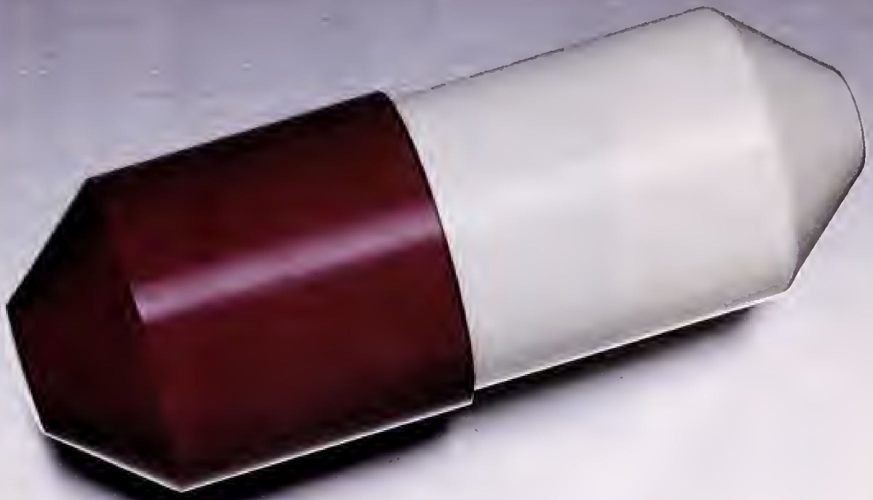

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Directory of Medical Specialty Organizations

Any specialty group not listed above is invited to send the name of the group's president and the time, date and place of the group's next meeting to: "Medical Specialty Listing," MISSOURI MEDICINE, P.O. Box 1028, Jefferson City, MO 65102.

** The 128th MSMA Annual Convention will be held April 3-6, 1986 at the St. Louis Marriott Pavilion Hotel.*

Specialty	President	Next Meeting
Missouri State Allergy Association	Marvin Kahn, M.D. 6724 Troost, Ste. 710 Kansas City 64131	MSMA Annual Convention, St. Louis*
Missouri Society of Anesthesiologists	George Hoech, Jr., M.D. 11724 Central St. Kansas City 64114	MSMA Annual Convention, St. Louis*
Missouri Dermatological Society, Inc.	Jerome M. Aronberg, M.D. 141 N. Meramec Clayton 63105	MSMA Annual Convention, St. Louis*
Missouri Chapter, American College of Emergency Physicians	Timothy T. Turner, D.O. 15073 Green Circle Dr. Chesterfield 63017	May 1986
Missouri Academy of Family Physicians	William C. Allen, M.D. 508 W. Briarwood Columbia 65203	June 13-15, 1986 Tan-Tar-A Osage Beach
Missouri Society of Internal Medicine	Stephen Hamburger, M.D. TMC Dept. of Medicine 2401 Holmes Kansas City 64108	Sept. 20-22, 1985 Tan-Tar-A Osage Beach
Missouri State Neurosurgical Society	E. Jerome Hansen, M.D. 4420 Wornall Rd. Ste. 328 Kansas City 64111	MSMA Annual Convention, St. Louis *
Missouri OB/GYN ACOG	James G. Blythe, M.D. 621 S. New Ballas Rd. Suite 2009 St. Louis 63141	Oct. 19, 1985 Columbia
Missouri Ophthalmological Society	King Y. Lee, M.D. 6650 Troost Ave. Kansas City 64131	MSMA Annual Convention, St. Louis*
Missouri State Orthopaedic Association	Marion Wolf, M.D. 1211 S. Glenstone Springfield 65804	Sept. 19-22, 1985 University Plaza Hotel Springfield
Missouri Society of Otolaryngology	Keith A. LaFerriere, M.D. 1900 South National Springfield 65804	MSMA Annual Convention St. Louis
Missouri Society of Pathologists	David D. Zoller, M.D. St. Mary's Hospital No. 1 Memorial Dr. Kansas City 64108	MSMA Annual Convention, St. Louis *
Missouri Chapter, American Academy of Pediatrics	David L. Simon, M.D. 9705 Watson Rd. St. Louis 63126	Fall 1985
Central Missouri Psychiatric Society	Curtis U.Franklin, M.D. 2900 Baltimore Kansas City 64108	MSMA Annual Convention St. Louis*
Central Society of Physical Medicine & Rehabilitation	Charles R. Kelly, M.D. St. Lukes Hospital 44th & Wornall Kansas City 64111	MSMA Annual Convention, St. Louis*

Missouri Radiological Society	Dan T. Sullivan, M.D. 100 Professional Bldg. 609 Cherry St. Springfield 65804	MSMA Annual Convention, St. Louis*
Missouri Chapter of American College of Surgeons	Edwin E. MacGee, M.D. 4440 Broadway Kansas City 64111	
Missouri State Surgical Society	W. Kirt Nichols, M.D. UMC Medical Center Dept. of Surgery Columbia 65212	MSMA Annual Convention, St. Louis*
Missouri Thoracic Society	Kevin McCusker, M.D. 7129 Lindell St. Louis 63130	Oct. 4-6, 1985 Tan-Tar-A Osage Beach
Missouri Society of Urologists	Jay L. Milne, M.D. 1900 S. National Suite 2700 Springfield 65804	MSMA Annual Convention, St. Louis*

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Division of Survey & Data Resources
American Medical Association
535 North Dearborn Street
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Insurance Plans Available to MSMA Members

Type of Coverage	*Underwriter*	*Administrator*
Professional Liability Insurance. Claim coverage available from $200,000/$600,000 to $2/$3 million. Endorsed by MSMA. Premises liability also available.	MOMEDICO (Missouri Medical Insurance Company) 10795 Watson Road St. Louis, MO 63127 800-392-8039	
Personal Disability Income. Benefits available up to $6,000 per month. Lifetime accident/to age 65 sickness coverage. Residual disability benefit available with cost of living increase provision. An individual contract with special renewal guarantees.	Commercial Insurance Company of Newark, N.J.	Fred S. James & Co. of Missouri, Inc. 2420 Pershing Road Kansas City, MO 64108 816-842-6670 231 S. Bemiston — Suite 1000 Clayton, MO 63105 314-863-7777
Overhead Expense Insurance. Benefits up to $10,000 per month. Optional 15 day or 30 day waiting periods after which payment begins from first day of disability and continues up to 2 years.	Commercial Insurance Company of Newark, N.J.	Fred S. James & Co. of Missouri, Inc. (see above)
Accidental Death and Dismemberment. Up to $200,000 coverage. May include spouse, children and employees.	Commercial Insurance Company of Newark, N.J.	Fred S. James & Co. of Missouri, Inc. (see above)
Hospital Indemnity Plan. $50 to $200 per day while hospitalized in addition to any other insurance. Family coverage available.	Commercial Insurance Company of Newark, N.J.	Fred S. James & Co. of Missouri, Inc. (see above)
Term Life Plan. Members and employees under age 60 may enroll for amounts up to $250,000. Spouses coverage, one half amount of member or employee, up to $100,000. Dependent children may be insured for $2,500.	Mutual Life Insurance Company of New York	Forrest T. Jones & Co., Inc. 3130 Broadway P.O. Box 131 Kansas City, MO 64141 1-800-892-7272
Major Medical Plan. Pays up to a lifetime of $1,000,000. Deductibles from $200-$1,000. Coverage available to members, employees and dependents.	Mutual Life Insurance Company of New York	Forrest T. Jones & Co., Inc. 3130 Broadway P.O. Box 131 Kansas City, MO 64141 1-800-892-7272
Workers' Compensation Insurance. A dividend program which returns premiums as earned each year, based on cost of claims from all participating physicians. The dividends often run between 30-40% per year.	Casualty Reciprocal Exchange, Member of Dodson Insurance Group	Dodson Insurance Group 92nd and State Line Kansas City, MO 64114 1-800-892-3431
Retirement Plan System. A comprehensive program covering design, administration, actuarial computations and the investment process.	Pension and Profit Sharing Consulting Services Department of E. F. Hutton and Company, Inc.	Trust Consultants, Inc. 320 Hatch Dr. Foster City, CA 94404 1-800-325-7182

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Missouri Volunteer Health Agencies

Patients of MSMA members are eligible, in some instances, to receive assistance from various volunteer health agencies in the state. Assistance may be in the form of free or subsidized specialized equipment, rehabilitation training, counseling, specialized care, or information.

In an effort to assist MSMA members in attaining assistance for their patients, the following list of Missouri volunteer health agencies has been compiled. In some cases, a statewide organization is listed. In instances in which an organization is limited to a certain portion of the state, several organizations may be listed under one heading.

Arthritis

Arthritis Foundation, Eastern Missouri Chapter
7315 Manchester, St. Louis 63143
314-644-3488

Arthritis Foundation, Greater Kansas City-Western Missouri Chapter
8301 State Line, Suite 117, Kansas City 64114
816-361-7002

Arthritis Institute of Greater Kansas City
6301 Rockhill Rd., Suite 102, Kansas City 64131
816-444-5899

Birth Defects

March of Dimes, Northern Missouri Chapter
1310 Business 63 South, Columbia 65201
314-449-0573

Blood Transfusion and Tissue Bank

Missouri/Illinois Regional Blood Services
4050 Lindell, St. Louis 63108
314-658-2000

Cancer

American Cancer Society, Missouri Division, Inc.
P.O. Box 1066, 3322 American Ave., Jefferson City, 65102
314-893-4800

Cerebral Palsy

United Cerebral Palsy Association of Missouri, Inc.
P.O. Box 611, Columbia 65201
314-449-2934

Crippled Children

Missouri Easter Seal Society, Inc.
10000 Watson Rd., St. Louis 63126
314-821-6001

Cystic Fibrosis

Cystic Fibrosis Foundation, Gateway Chapter
7730 Carondelet, St. Louis 63105
314-721-2490

Cystic Fibrosis Foundation, Heart of America Chapter
7920 Ward Parkway, Room 206, Kansas City 64114
816-363-5636

Diabetes

American Diabetes Association, Heart of America Affiliate
9201 Ward Parkway, Suite 300, Kansas City 64114
816-361-3361

American Diabetes Association, Missouri Regional Affiliate
Box 11, Columbia 65205-0011
314-443-8611

American Diabetes Association, Greater St. Louis Affiliate
1790 S. Brentwood Blvd., St. Louis 63144
314-968-3196

Epilepsy

Epilepsy Federation of Greater St. Louis
7305 Manchester, St. Louis 63143
314-645-6969

Greater Kansas City Epilepsy League
4949 Rockhill Rd., Kansas City 64110
816-276-8940

Growth Disorders

Human Growth Foundation, Greater St. Louis Chapter
Box 15885, St. Louis 63114
314-429-6893

Heart

American Heart Association, Missouri Affiliate, Inc.
P.O. Box Q, 105 E. Ash, Suite 2, Columbia 65205
314-442-3193

Hemophilia

Bi-State Hemophilia Association
P.O. Box 22246, St. Louis 63116
314-771-6080

Kidney

National Kidney Foundation of Kansas and Western Missouri
One East 34th St., Kansas City 64111
816-756-2002

Kidney Foundation of Eastern Missouri and Metro East, Inc.
225 South Meramec, Suite 200, St. Louis 63105
314-863-5858

Lungs

American Lung Association of Eastern Missouri
1118 Hampton Ave., St. Louis 63139-3147
314-645-5505

American Lung Association, Northeast Missouri Branch
P.O. Box 574, Kirksville 63501
816-665-9403

American Lung Association, Central Missouri Branch
P.O. Box 1321, Columbia 65205
314-874-2616

American Lung Association, Southeast Missouri Branch
53 Plaza Way, Cape Girardeau 63701
314-334-4007

American Lung Association of Western Missouri
2007 Broadway, Kansas City 64108
816-842-5242

Multiple Sclerosis

Multiple Sclerosis Society, Mid-America Chapter
P.O. Box 2292, Shawnee Mission, KS 66201
913-432-3926

Multiple Sclerosis Society, Mid-Missouri Branch
1201 Pacquin G-2, Columbia 65201
314-875-6767

Multiple Sclerosis Society, Gateway Area Chapter
915 Olive St., Suite 815, St. Louis 63101
314-241-8285

Muscular Dystrophy

Muscular Dystrophy Association, Inc., Greater Ozarks Chapter
1087 E. Commercial, Springfield 65803
417-866-5117

Muscular Dystrophy Association, Inc., Missouri Valley Chapter
3435 Broadway, Suite L-9, Kansas City 64111
816-931-7750

Muscular Dystrophy Association, St. Charles Chapter
2726 Droste Rd., Suite 8, St. Charles 63301
314-947-3331

Muscular Dystrophy Association, Central Missouri Chapter
914 Tandy, Suite 2, Columbia 65201
314-442-5154

Muscular Dystrophy Association, Cape Girardeau Chapter
310 Broadway, 4th Floor, Cape Girardeau 63701
314-335-4400

Muscular Dystrophy Association, Inc., Mississippi Valley Chapter
1-23 S. Big Bend Blvd., St. Louis 63117
314-644-2828

Myasthenia Gravis

Myasthenia Gravis Foundation, Inc., Greater Kansas City Chapter
4949 Rockhill Rd., Kansas City 64110
816-276-8310

Red Cross

American Red Cross, Missouri/Illinois Regional Blood Services
4050 Lindell Blvd., St. Louis 63108
314-658-2000

American Red Cross, Greater Kansas City Chapter
3521 Broadway, Kansas City 64111
816-756-2365

Retarded Citizens

Association for Retarded Citizens (ARC) of Missouri
P.O. Box 1705, 230 W. Dunklin, Jefferson City 65102
1-800-392-0218

Barry-Lawrence ARC
P.O. Box 244, Monett 65708
417-235-3596

Boone County ARC
1201 Subella, Columbia 65201
314-445-5159

Clay-Platte ARC
3615 N. College, Kansas City 64116
816-452-5969

Cole County ARC
1515 E. High St., Jefferson City 65101
314-635-4490

Gentry County ARC
Albany 64402
816-726-4155

Greene County ARC
1031 E. Battlefield, Ste. 117, Springfield 65807
417-883-3442

Jackson County ARC
2918 Norwood, Independence 64052
816-461-6253

Joplin Area ARC
2115 Murphy, Joplin 64801
417-623-1899

Midland Empire ARC
4413 W. Haverill, St. Joseph 64506
816-232-9768

Moniteau County ARC
Jamestown Star Rt., California 65081
314-796-3216

Montgomery County ARC
P.O. Box 111, Montgomery City 63661
314-564-2925

St. Charles County ARC
P.O. Box 9634, O'Fallon 63366
314-281-1903

Stoddard County ARC
Rt. 2, Box 11, Dexter 63841
314-624-8525

Sudden Infant Death Syndrome

St. Louis Regional Maternal and Child Health Council, Inc.
5600 Oakland Ave., Suite G-350A, St. Louis 63110
314-644-4100

Special Article

A Missouri Physician's Guide to Becoming More PRO-Active

by Mohammad N. Akhter, M.D., Thomas E. Mangus and Dan Jaco

Since becoming the peer review organization (PRO) for the state of Missouri last August, the Missouri Patient Care Review Foundation has received numerous telephone calls and letters from physicians throughout the state. The reason for this high level of response is not hard to understand. Although some of its functions were being implemented prior to August 1984, the PRO program nevertheless represented a significant departure from medical review under the PSRO (Professional Standards Review Organization) program that immediately preceded it. As a result, calls and letters from physicians ranged from requests for information, to complaints about the program and its impact on the practice of medicine and the care of patients, to offers of assistance to help improve the program in ways that appropriately meet the needs of our physicians and patients while complying with the mandated requirements of the Health Care Financing Administration (HCFA).

During the first few months of the program, the Foundation expected to handle and did receive a large number of inquiries about the program. Some of these calls and letters related to the issuance of denials by the Foundation. In addition to addressing individual inquiries from concerned physicians, the Foundation has made a concerted effort to educate Missouri physicians about the PRO program through a variety of communications, including presentations before physician and hospital groups, direct mailings to physicians statewide, mailings to hospital chief executive officers, and publication of monthly articles on the review process and policies of the Foundation through *Missouri Medicine* and through *Cooperation*, the journal of the Missouri Association of Osteopathic Physicians and Surgeons.

We believe these efforts have been at least partially successful. Ten months after the PRO program began, the number of calls and letters has declined somewhat. However, the concerns voiced remain essentially the same, with a significant number of physicians continuing to express complaints and reservations about various aspects of the program which indicate they may still not understand fully the PRO program.

All physicians share in the responsibility to reduce the rate of increase in health care costs while maintaining the quality of that care. Part of that responsibility includes not exposing our Medicare patients unnecessarily to the "trauma" of a denial letter and the perception that care may have been rendered which was unnecessary when in fact it was not the treatment in question but the setting. In many instances, denial letters to Medicare patients (which are required by law) could be avoided. Recognizing the Foundation has a continuing responsibility to help assure a clear understanding of the PRO program, this latest article provides a brief overview of the significant features of the program, combined with suggestions to physicians about how to avoid denials unnecessarily and how to respond appropriately and effectively to a denial letter.

Background

When the Peer Review Improvement Act became law in October of 1982 as a part of the mammoth Tax Equity and Fiscal Responsibility Act (TEFRA), the statutory basis for the PRO program was created. In passing the legislation, Congress demonstrated its belief that the PSRO program was not a cost-effective vehicle for the control of utilization and maintenance of quality health care. In its place Congress envisioned a program that was to be performance-based, that is, flexible enough to meet local problems or conditions, yet uniform within each PRO area in the application of review policies and procedures. It was also the intent of Congress that the program

> "Do not take a denial lightly. The implications of a denial are far-reaching for the institution where you practice and for you."

should be able to make maximum use of limited funds, to be both cost effective and cost efficient.

With this statutory authority and forthcoming implementation a year later of the Prospective Payment System (PPS) and diagnostic-related groups (DRGs), HCFA initiated the development of a PRO program much more rigid and prescriptive than anyone would have anticipated in 1982. HCFA published the first proposed implementing regulations for the program in August of 1983, including PRO area designations and definitions of organizations eligible to become PROs. This regulation made PRO areas equivalent to the states and signaled the beginning of a change in the federal concept of local peer review from that which existed under the PSRO program to the state level.

The Missouri Patient Care Review Foundation, an organization sponsored by the Missouri State Medical Association and the Missouri Association of Osteopathic Physicians and Surgeons, applied for and was designated the PRO for Missouri. As with the previous PSRO program, the PRO program in Missouri continued to be organized into the same five geographic regions for the purpose of conducting medical review. There are, of course, a number of significant differences under the present arrangement, including the fact that there is a central office located in Jefferson City, and the fact that employees in four of the five regional offices work directly for the Foundation. Moreover, the remaining subcontractor to the Foundation, located in Kansas City, remains equally responsible for carrying out the policies and procedures of the Foundation under its contract with HCFA as established by its 14-member physician board.

Since the inception of the program, HCFA has been very explicit in its insistence that PRO review be conducted in a consistent and uniform fashion throughout the state. Failure to meet this condition would jeopardize present and future contracts between the Foundation and the federal government. One of the critical features the HCFA Regional Office has stressed in its periodic monitoring visits to the Missouri PRO is the need to achieve and maintain consistency of review statewide.

Retaining local peer review within a system of statewide consistency may seem a contradiction to some. However, the Foundation and its board have worked over the past year to maintain a concept of local peer review that is acceptable to practicing physicians across the state while meeting the federal mandate. Moreover, the Foundation strongly believes that the input and control of local physicians relating to medical review should continue to be part of the Foundation's program.

The Foundation is a physician-controlled organization. Its entire 14-member board is composed of practicing physicians in a variety of specialties, representing all areas of the state. While the board sets policies and procedures for the state as a whole, physicians conducting review on behalf of the Foundation in local areas are practicing in the same geographic area. For example, when a denial is issued to a St. Louis area physician, it is done so by a physician from the St. Louis office. If the attending physician requests a reconsideration of the denial determination, the case is then reviewed by another St. Louis area physician (not involved in the original determination) who is either Board-certified or Board-eligible in the specialty of the attending physician whose case has been denied. In this way, local peer review is, and will continue to be, maintained in each of the five areas of the state. (The only exception to having the initial and/or reconsideration review performed within the area would be if the unavailability of a specialist or a conflict of interest made it impracticable.)

Selection of Cases for Review

After a Medicare patient has been treated and discharged from a hospital and the attending physician has attested to the principal and other diagnoses and procedures, the hospital can submit the bill to St. Louis Blue Cross, which acts as the fiscal intermediary (FI) for Medicare. Unless it is one of the relatively few conditions where prepayment review by the PRO is required, the bill is paid by the FI once it is processed. If the FI's computer detects an error or omission on the bill, it will be sent back to the hospital for correction and resubmission. A tape of paid Medicare claims is prepared by the FI and forwarded to the Foundation on a regular basis. It is from such tapes of paid claims that we draw our monthly samples of cases, by hospital, for review in the next month. This time-consuming process explains why some patients whose cases are selected for review may have received treatment four, five, or six or more months before.

After a monthly sample is selected for review (the sample may equal 100% of Medicare cases for that month if the hospital has lost its favorable waiver and is under intensified review), review worksheets are generated for each case by the Foundation data center and are forwarded with the lists to each Foundation regional office. The regional office, in turn, notifies each hospital in its area of the records to be pulled for review and schedules an onsite visit. (The only exception to scheduling an on-site visit is if the hospital has fewer than ten cases to be reviewed for that month, in which case it is required to mail copies of the records to the regional ofice.) Each regional office maintains a staff of review coordinators, generally composed of nurses and medical records personnel, who are assigned to perform the reviews.

The Review Process

Using criteria approved by the Foundation Board, the review coordinators review the charts for medical necessity, DRG validation, and potential quality concerns to determine which, if any, cases should be referred to a local physician for medical review. Criteria that have been especially developed by the Foundation for use by review coordinators are contained in Tables 1 through 13. All other cases are reviewed using ISD-A criteria developed by InterQual; these are based on severity of illness and intensity of service.

Those cases referred by a review coordinator are forwarded for review to a physician who makes an initial determination based upon his/her own medical expertise — not simply whether the criteria were met — and on what is in the medical record. If the reviewing physician (called a physician advisor) determines that the patient could have been treated as an outpatient, a letter (known as a pending denial) is sent to the attending physician (but not the patient) informing him or her of the review findings and providing the attending physician an opportunity to submit additional information justifying the need for inpatient services for the case in question. The attending physician has 15 days to respond with additional information. If there is no additional information submitted, the admission becomes a final denial at the end of the fifteen days, and a letter to that effect is sent to the patient, the hospital, the attending physician, and the FI. Depending upon the hospital's waiver status, it is possible the hospital will not be paid the DRG for that patient.

If additional information is submitted by the attending physician, the case again will be reviewed by the physician advisor, together with the new information, to determine if the original decision still is justified. If the pending denial decision is reversed, the attending physician and the hospital are notified, and the case is certified for payment. If the physician advisor upholds the pending denial, a final denial is issued as discussed above.

After a denial has been made, the physician, patient, or hospital may ask for reconsideration of the determination. When a reconsideration is sought, the medical records, along with any additional information submitted by the attending physician, is forwarded to another physician not involved in the initial determination. Based on the decision of that physician (or physicians), a final decision is made either to overturn the denial or to uphold the initial denial.

Since the PRO has very little flexibility in this entire process, there are certain troublesome spots of which all physicians need to be aware:

1. By the time a physician receives a pending denial letter, the case may already be five to six months old, and the physician may not remember all the details relating to diagnosis and treatment.
2. The PRO reviews only the records of the patient's care and has the benefit of 100% hindsight.
3. There are differences in the practice of medicine among physicians within the same area and certainly within different geographical areas. Some physicians admit most of their patients; others attempt to treat their patients with similar problems as outpatients. The federal government is clearly committed to minimizing these differences as much as possible to assure inpatient admis-

> "If it is not in the record, then it did not happen."

Dr. Akhter is the executive vice president and medical director of the Missouri Patient Care Review Foundation, Mr. Mangus is the director of operations for the Foundation and Mr. Jaco is the assistant director of operations for the Foundation.

sions only for those patients who truly need to be in the hospital for the management of their illness.

With these thoughts in mind, what must physicians do to avoid denials unnecessarily?

Understand the System. This is perhaps the most critical point. What you don't know can hurt you. Physicians must understand the process as well as the criteria. If you have not done so in the past, participate in the review process as a reviewer.

Fully Document Each Case. Poor documentation is a major cause of referrals and denials. You have probably heard the axiom, "If it is not in the record, then it didn't happen." From a review coordinator's or reviewing physician's perspective, that is in fact the case. To avoid an adverse decision, the reasons for admission to an acute care facility should be adequately and appropriately documented.

Know the Criteria. The criteria in Tables 1 through 13 and the ISD-A criteria published by InterQual are guidelines for the review coordinators to perform screening of the charts. Most Medicare patients admitted to hospitals meet these criteria; however, documentation is not always adequate. Charts meeting the criteria will generally not be referred by review coordinators, and there will be no need for a physician advisor to review, and possibly deny, the case. Therefore, it is important to be intimately familiar with the criteria relating to your specialty as established by the Foundation and to make sure that you document the appropriate elements of that criteria on the medical records. If your admission does not meet Foundation-established criteria, describe the specific medical reasons for admission of the patient to the hospital to enable review by the physician advisor in the event of a referral. If you have problems with the criteria or think they are inappropriate, contact the Foundation medical director with your proposed changes so that we can refer them to a committee in the appropriate specialty or to the Quality Assurance/Criteria Committee of the Missouri Patient Care Review Foundation for appropriate adjustment.

If you do receive a denial, have your chart reviewed by the hospital utilization review committee to determine whether there is reason to believe the case should be reconsidered by the PRO. If so, let the committee, on your behalf or on behalf of the hospital, write a letter to the PRO for the denial reconsideration with their reasons for the request.

If you have information in your office that is not a part of the original medical record that will justify the admission, please provide that information with the record.

You have 60 days from the date of the denial letter to ask for a reconsideration. Ask promptly for reconsideration while the PRO still has the chart at hand and the case is fresh. Requests for reconsideration received after 60 days will not be honored.

If you feel you have been treated unfairly or that your local physicians are too strict in denying your cases, you can always ask for reconsideration outside your area by writing to the Foundation.

Do not take a denial lightly. The implications of a denial are far-reaching for the institution where you practice and for you. Physicians who continuously receive denials are subject to 100% review of all Medicare cases. There are already physicians in Missouri who are on 100% review. If unnecessary admissions continue to be a problem, then preadmission certification beyond what is presently required of all physicians might be invoked to address the situation with both the physician and the hospital involved. This would mean that prior to admission of a Medicare patient, the physician would need to get approval from the Foundation office. A handful of physicians is presently under 100% preadmission certification at this time. If the problem still continues unabated, then HCFA may impose sanctions such as excluding that particular practitioner from participation in Medicare.

The Board of the Missouri Patient Care Review Foundation is concerned about the extraordinary powers and authority granted to the Health Care Financing Administration to impose punitive actions on physicians in the state. The Board is willing to work with physicians and hospitals to minimize the number of denials being made and at the same time to assure that only those patients who need acute care are admitted to the hospital.

It is in our mutual interest that we stay informed and cooperate with each other for the benefit of our patients. ■

> "The PRO reviews only the records of the patient's care and has the benefit of 100 percent hindsight."

This project has been funded at least in part with federal funds from the Department of Health and Human Services under contract number 500-84-0526. The content of this publication does not necessarily reflect the views or policies of the Department of Health and Human Services, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

Screening Criteria For Use by Review Coordinators

Missouri Patient Care Review
Foundation
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Table 1
Preadmission Certification

Generally speaking, the following procedures can be safely performed on an outpatient basis:

1.	04.43	Release of carpal tunnel syndrome
2.	24.5	Alveoloplasty
3.	40.11	Biopsy of lymphatic structure
4.	53.00	Unilateral repair of inguinal hernia
5.	67.12	Other cervical biopsy
6.	67.39	Other excision/destruction of lesion or tissue of cervix
7.	69.09	Other dilation and currettage
8.	71.3	Other local excision/destruction of lesion of vulva and perineum
9.	81.18	Other fusion of toe
10.	82.21	Excision of lesion of tendon sheath and hand
11.	83.13	Other tenotomy
12.	85.12	Other biopsy of breast
13.	86.23	Removal of nail, nailbed or nailfold
14.	86.3	Other local excision/destruction of lesions of skin or subcutaneous tissue
15.	86.60	Free skin graft, NOS

Hospitalization of a patient is warranted only if one or more of the following conditions are present:

1. Outpatient surgery entails a relatively greater degree of risk, either because of:
   a) The patient's age and debilitated state, or
   b) The existence of a significant secondary medical diagnosis or systemic disorder, or
   c) The time required to perform the particular procedure or procedures involved (60 minutes or more).
2. The procedure will be followed by a major surgical procedure.
3. Documented complications that arise during the procedure or in the immediate postoperative period.

Table 2
Endoscopic Procedures (G.I. Tract)

Indications for admission to acute-care facility — A patient may be hospitalized if any one or more of the following conditions are present:

1. The existence of a significant secondary diagnosis or systemic disorder.
2. Patient's age (over 80) and/or debilitated state.
3. The procedure will be followed by another surgical procedure.
4. Endoscopic procedure of the following type:
   (a) ERCP
   (b) Papillotomy
   (c) Initial esophageal dilatation of stricture or tumor
   (d) Any dilatation in achalasia
5. Documented complications that arise during the procedure or in the immediate post-operative period may occasion inpatient admission; e.g., suspected perforation of bowel, observation for suspected hemorrhage after snare polipectomy, complication of medication, etc.

Table 3
Abdominal Pain

Indications for admission to acute-care facility — A patient may be hospitalized if all of the following conditions are present:

1. Acute/severe abdominal pain.
2. Documentation of the evaluation of the patient by a physician within three hours prior to admission.
3. Documentation of the appropriate testing and/or monitoring.

Table 4
Cholecystectomy Without Exploration of Bile Ducts

Indications for surgery include one or more of the following:

1. Present acute attack of right upper quadrant — pain without obstructive jaundice and one of the following:
   a. Radiologic or nuclear medical evidence of cystic duct obstruction.
   b. Radiologic or sonographic evidence of gallstones.
   c. Palpable right upper quadrant mass.
2. History of previous attacks (within past two months) of upper abdominal pain, flatulence, indigestion or food intolerance, nausea, vomiting, or chills and fever, and any one of the following:
   a. Radiologic or nuclear medical evidence of cystic duct obstruction.
   b. Radiologic or sonographic evidence of gallstones.

Table 5
Hysterectomy

Indications for surgery include any one or more of the following:

A. Premalignant and malignant conditions of the uterine cervix, e.g.:
   1. Dysplasia (Class III Pap smears) on at least two separate occasions.
   2. Carcinoma in situ.

   In these cases, invasive carcinoma must have been excluded, either by colposcopy with biopsy or cold cone D & C.
B. Premalignant lesions of the endometrium, e.g.:
   1. Atypical hyperplasia of the uterus.
   2. Adenomatous hyperplasia (pertaining to adenoma or to nodular hyperplasia).

   In these cases, adenocarcinoma of the endometrium must have been excluded by adequate endometrial evaluation, either by adequate endometrial biopsy or fractional D & C.
C. Malignant disease of the uterus, ovaries or Fallopian tubes.
D. Leiomyomas which are either:
   1. Symptomatic, e.g., causing abnormal bleeding or ureter compression or bowel compression.
   2. Showing rapid, progressive enlargement.
E. Vaginal bleeding (profuse, active, uncontrolled) in spite of D & Cs and failed hormonal management.
F. Symptomatic prolapse of uterus.

Table 6
Unilateral Inguinal or Femoral Hernia

I. Indications for surgery include the following:
   A. Demonstrated hernia in a patient without terminal disease.
   B. Strangulated hernia.

II. Indications for admission to acute-care facility — A patient may be hospitalized if any one or more of the following conditions are present:
   A. Outpatient surgery entails a relatively greater degree of risk because of:
      1. The patient's age (over 80) and/or debilitated state, or
      2. The existence of a significant secondary medical diagnosis or systemic disorder (to include prostatism, prostate enlargement, COPD, etc.) or
      3. Spinal anesthesia,
      4. Recurrent hernia,
      5. Implantation of prosthetic material in the repair,
      6. Repair involving more than high ligation of the sac and internal ring plasty.
   B. The procedure will be followed by another surgical procedure (that allows admission on its own merit).
   C. Documented complications that arise during the procedure or in the immediate postoperative period may occasion an inpatient admission.

Table 7
Swing-Bed Patients

A patient may be admitted to a swing-bed if the patient meets the following criteria:

1. Post-acute care services must be of a nature that can only be given on a daily inpatient basis.
2. Patient requires frequent nurses' monitoring and assessment each day with the possibility of change in the medication and/or treatment.
3. The patient must have received at least three days of acute service within the last 30 days
   AND any one of the following:
4. Alimentation by any one of the following:
   (a) I/V therapy
   (b) Nasogastric tube feeding
   (c) Gastrostomy tube
5. Inhalation therapy for any one of the following:
   (a) Need O_2 adjustment to meet optimal level for an unstable condition
   (b) IPPB therapy
   (c) Postural drainage and/or frequent suctioning
6. Multiple injections — Multiple needs to achieve stabilization of the patient and/or to train patients in self-administration of injections
7. Ostomy Care
   (a) Patient education to promote self-care
   (b) Treatment of complication
8. Urological care by any one of the following:
   (a) Antibiotic irrigation with daily replacement of the catheter
   (b) Suprapubic catheter with daily irrigation
   (c) Bladder training program (limit 10 days)
9. Prosthetic devices — Specific training program for correct application of such devices
10. Skin Care/Decubiti — Care of extensive open draining ulcer
11. Physical therapy at least five days per week under the direct supervision of a physical therapist as covered by Medicare

Table 8
Transurethral Resection of the Prostate

Prostatism is a group of symptoms caused by obstruction, some of which are:

1. Diminished size and force of the urinary stream.
2. Increased frequency of urination.
3. Nocturia (× 3).
4. Urinary hesitancy.
5. Intermittent stream.
6. Dribbling at the end of urination.

Indications for prostatectomy — Any of the following:

1. Any two or more of the above symptoms of prostatism with or without infection.
2. Urinary retention due to prostatism.
3. Renal failure, uremia, hydronephrosis and hydroureter clearly related to the prostatism and partial urinary tract obstruction.

Table 9
Chemotherapy

Indications for admission to acute-care facility — A patient may be hospitalized if any one or more of the following conditions are present:

A. Maintenance chemotherapy requiring inpatient hospitalization — documentation of the following:
   1. Bone marrow depression, indicated by any one of the following:
      a) WBCs less than 3,000 or granulocytes less than 1,500.
      b) Reticulocyte count less than 0.5.
      c) Platelets less than 50,000.
      d) Hemoglobin less than 9 gm.
   2. Severe dehydration due to nausea and vomiting related to chemotherapy, documented as uncontrolled as outpatient.
   3. Existing bleeding diathesis.
   4. Severely debilitated — documentation that chemotherapy cannot be given on outpatient basis.

B. Complications of disease of treatment (e.g., GI or urinary tract complications, symptomatic effusion, infection, renal failure).

C. Chemotherapeutic agent that requires continuous observation for life-threatening toxic reaction (e.g., CIS-Platinum, Bleomycin, Adriamycin, BCNU).

D. Route of administration that may be life threatening (e.g., intracavitary, intrathecal or prolonged infusion via cannulization).

Table 10
Lens Procedures

Indications for admission to acute-care facility — A patient may be hospitalized if any one or more of the following conditions are present:

1. Pre-existing pathology in the operative eye (in addition to cataract).
2. Contraindication to local anesthesia.
3. The patient is non-ambulatory or cannot participate in self care during the postoperative state.
4. The patient's age (over 80) and/or debilitated state.
5. The existence of a significant secondary medical diagnosis or systemic disorder.
6. The procedure will be followed by another surgical procedure.
7. Documented complications that arise during the procedure or in the immediate postoperative period may occasion inpatient admission.

Table 11

Admission To and Continued Stay in a Comprehensive Medical Rehabilitation Unit

Admission Criteria +

1. The patient must have the potential to comprehend the objectives of the rehabilitation program and to cooperate with the program; and
2. Patients with an acute medical problem(s) which would interfere with rehabilitation must be resolved before admission to the rehabilitation unit; and
3. The patient must have had a significant* compromise in two or more of the following: bowel and bladder independence, transfers, wheel chair locomotion, ambulation, eating, dressing, personal hygiene, speech, or homemaking.

+ There must be written goals that can realistically be achieved by treatment for each individual patient; and documentation of all of the above must be in the patient's chart by the third working day after admission.

Continued-Stay Criteria

1. The patient must need close supervision† by a physician with specialized training and/or experience in rehabilitation at least five days per week; and
2. Continued significant progress documented in team conference reports at least every two weeks, more often if indicated, in addition to the usual therapy and progress note documentation; and
3. The patient must need 24-hour rehabilitation nursing and at least three hours per day total of physical therapy and/or occupational therapy in addition to any other required therapies; and
4. If the patient develops an acute illness that interferes with the rehabilitation program, which cannot be resolved in five working days, the patient should be transferred to acute care.

* Significant — The patient's condition no longer allows him or her to carry out the activities of daily living that were possible before this episode.

† Close Supervision — Frequent written documentation by the rehabilitation physician, attendance by that physician at the team conferences and the physician's signature on the team conference report.

Table 12

Screening Criteria for Use by Review Coordinators Psychiatric Admissions

I. General indications for psychiatric admissions (requires specific documentation):
    A. Potential danger to self, others, or property.
    B. Failure of ambulatory or extended-care management to resolve "A," and
    Active therapy such as continuous skilled observation, electroconvulsive therapy, special drug therapy, or other specific therapeutic program requiring continuous hospitalization.
II. General indications or reasons for extending length of stay for psychiatric patients:
    A. Insufficient progress in satisfying the reasons for admission listed above and need for stabilization of medication or specific therapeutic programs.
    B. Exacerbations of clinical signs and/or symptoms of psychiatric illness; suicide or homicide attempt; development of or recognition of an underlying inadequately controlled psychotic condition.

Table 13

Pacemaker Insertion

Group I: Criteria which a non-physician reviewer may accept as adequate for establishing the necessity for cardiac pacemaker implantation. In each case, significant symptoms or signs must be documented as attributable to the underlying cardiovascular disease. Symptoms and signs regarded as significant include syncope, angina, seizures, dizziness, confusion, congestive heart failure secondary to arrhythmia, and arrhythmias which are regarded as life threatening (e.g., ventricular tachycardia, frequent ventricular prematurities) or are themselves productive of the other symptoms or signs. In each case, as well, the conditions should be indicated to be chronic or recurrent and not due to transient causes such as acute myocardial infarction, drug toxicity, or electrolyte imbalance.

1. Complete AV heart block, either acquired or congenital, may also be termed "third-degree heart block."
2. Second-degree AV heart block may be termed also "Mobitz Type I or II" or "Wenckebach."
3. Sinus node dysfunction may be of several types, including "sick sinus syndrome," "brachycardia-tachycardia syndrome," "sinoatrial block," "sinus arrest," "sinus pauses" — or simply even "sinus bradycardia" if sufficiently severe that significant signs or symptoms are attributed to it, with appropriate documentation (Holter monitor, ECG, etc.) during symptomatic interval.
4. Supraventricular arrhythmias (e.g., atrial fibrillation, atrial flutter, or paroxysmal atrial tachycardia) with high degree of AV block documented as being unresponsive to appropriate pharmacological management.
5. Hypersensitive carotid sinus syndrome unresponsive to prophylactic medical measures, with appropriate documentation.

Group II: Conditions under which implantation of a cardiac pacemaker may be found acceptable or necessary, but for which physician review should be sought for evaluation of additional factor.

1. Complete AV heart block (acquired or congenital) without significant signs or symptoms.*
2. Bifascicular or trifascicular heart block with significant signs or symptoms for which other plausible causes cannot be determined.
3. Asymptomatic second-degree AV block of Mobitz Type II.
4. Temporary complete or second-degree AV block in association with acute myocardial infarction.
5. Substantial sinus bradycardia (heart rate less than 45) or AV heart block which is a consequence of long-term necessary drug treatment for which there is no acceptable alternative — with or without symptoms.
6. "Overdrive pacing" for recurrent and refractory ventricular tachycardia — (pacing above the basal rate to prevent ventricular tachycardia).
7. Limited exercise tolerance related to arrhythmia.

Group III: Conditions which have been used in the past by some physicians as bases for permanent pacemaker implantation, but which should not generally be considered appropriate used for pacemakers in the absence of indications cited in Groups I and II.

1. Syncope of undetermined cause.
2. Sinus bradycardia without significant symptoms.
3. Sinoatrial block or sinus arrest without significant symptoms.
4. Prolonged RR intervals (slow ventricular response) with atrial fibrillation (without third-degree AV block).
5. Bradycardia during sleep.
6. Right bundle branch block with left axis deviation (and other forms of fascicular or bundle branch blocks) without significant signs or symptoms.
7. Asymptomatic second-degree AV block of Mobitz Type I (Wenckebach).

* Refers to signs and symptoms listed in Group I.

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Reprints

Reprint order blanks will accompany proof, which will be sent to authors prior to publication.

Editorials

Editorials should be written in clear, concise language. Length should be about two or three pages typed with double spacing.

Letters

Letters will be published at the discretion of the editor, managing editor, and Editorial Board.

Deadline

All material other than scientific should be received prior to the first of the month preceding month of publication.

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Situation wanted — GP with experience in nursing homes, mental retardation, with master's degree in public administration seeks position with nursing homes (primary care or administrative duties) within two hours of Marshall. Write: Pat Hogan, D.O., Route 4, Box 117B, Marshall, MO 65340.

ENT equipment for sale — three complete SMR (wall cabinets with hardware, otoscopy, transluminator — no air-central connection); two pedestal-type dental cuspidors (Weber); three SMR patient chairs, stainless side tables, doctor's chair; ENG table (SMR); one audio booth MINI IAC, and assorted other equipment. Contact Pat A. Barelli, M.D., 2929 Main Street, Suite 105, Kansas City, MO 64108. 816-561-4423.

Missouri private practices — Solo, associate and group in many fields. Please send C.V. and lifestyle preferences to W. Sanford Smith, Professional Practice Management, 900 Rockmead, Kingwood, TX 77339.

Adolescent Medicine and Ambulatory Pediatric Advances: 1985. Sponsored by the Oklahoma Chapter of the American Academy of Pediatrics, the Midwest Region of the Society for Adolescent Medicine, Region VII of the Ambulatory Pediatric Association and the University of Oklahoma Tulsa Medical College. Dates/location: September 27-28, 1985, Doubletree Hotel Complex, Tulsa, OK. Speakers: Drs. Robert Haggerty, Donald Greydanus, Heinz Eichenwald, Donald Gross, Robert Endres, Katherine Smith, Charles Ginsburg, Wallace Clyde and Donald Wilson. For more information, contact Kimball Austin Miller, M.D., Section of Adolescent Health Care, University of Oklahoma Tulsa Medical College, 2815 South Sheridan Road, Tulsa, OK 74129 (918-838-4838). This continuing education activity will meet the criteria for 11 educational credit hours.

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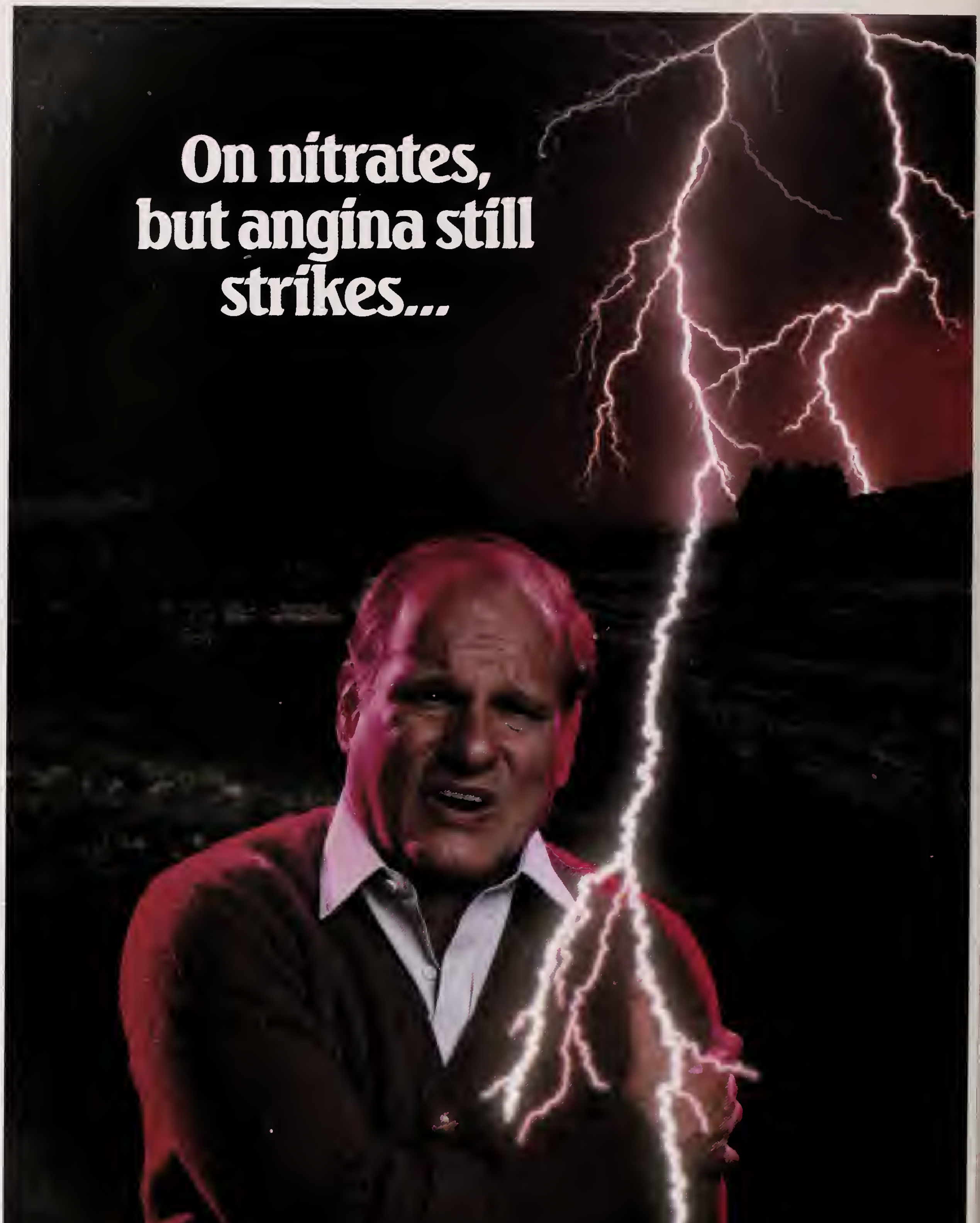
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ISOPTIN®

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Contraindications: Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure < 90 mm Hg) or cardiogenic shock, sick sinus syndrome (except in patients with a functioning artificial ventricular pacemaker), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction < 30% or moderate to severe symptoms of cardiac failure) and in patients with any degree of ventricular dysfunction if they are receiving a beta blocker. (See *Precautions*.) Patients with milder ventricular dysfunction should, if possible, be controlled with optimum doses of digitalis and/or diuretics before ISOPTIN is used. (Note interactions with digoxin under *Precautions*.) ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild and controlled by decrease in ISOPTIN dose). Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Such elevations may disappear even with continued treatment; however, four cases of hepatocellular injury by verapamil have been proven by rechallenge. Periodic monitoring of liver function is prudent during verapamil therapy. Patients with atrial flutter or fibrillation and an accessory AV pathway (e.g. W-P-W or L-G-L syndromes) may develop increased antegrade conduction across the aberrant pathway bypassing the AV node, producing a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion, which has been used safely and effectively after ISOPTIN. Because of verapamil's effect on AV conduction and the SA node, 1° AV block and transient bradycardia may occur. High grade block, however, has been infrequently observed. Marked 1° or progressive 2° or 3° AV block requires a dosage reduction or, rarely, discontinuation and institution of appropriate therapy depending upon the clinical situation. Patients with hypertrophic cardiomyopathy (IHSS) received verapamil in doses up to 720 mg/day. It must be appreciated that this group of patients had a serious disease with a high mortality rate and that most were refractory or intolerant to propranolol. A variety of serious adverse effects were seen in this group of patients including sinus bradycardia, 2° AV block, sinus arrest, pulmonary edema and/or severe hypotension. Most adverse effects responded well to dose reduction and only rarely was verapamil discontinued. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacologic effects. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, close surveillance of vital signs and clinical status should be carried out. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patients should be carefully monitored to avoid over- or under-digitalization. ISOPTIN may have an additive effect on lowering blood pressure in patients receiving oral antihypertensive agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Clinical experience with the concomitant use of ISOPTIN and short- and long-acting nitrates suggest beneficial interaction without undesirable drug interactions. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C*: There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block: 3rd degree (0.8%), bradycardia: HR < 50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%), elevations of liver enzymes have been reported. (See *Warnings*.) The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: ecchymosis, bruising, gynecomastia, psychotic symptoms, confusion, paresthesia, insomnia, somnolence, equilibrium disorder, blurred vision, syncope, muscle cramp, shakiness, claudication, hair loss, macules, spotty menstruation. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in round, scored, film-coated tablets containing either 80 mg or 120 mg of verapamil hydrochloride and embossed with "ISOPTIN 80" or "ISOPTIN 120" on one side and with "KNOLL" on the reverse side. Revised August, 1984. 2385

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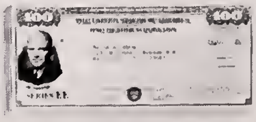

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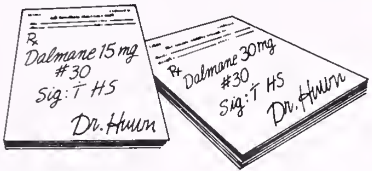
References: 1. Kales J, *et al: Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. **2.** Kales A, *et al: Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A, *et al: Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A, *et al: Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **6.** Dement WC, *et al: Behav Med*, pp. 25-31, Oct 1978. **7.** Kales A, Kales JD: *J Clin Psychopharmacol 3*:140-150, Apr 1983. **8.** Tennant FS, *et al:* Symposium on the Treatment of Sleep Disorders, Teleconference, Oct 16, 1984. **9.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977.



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Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase, and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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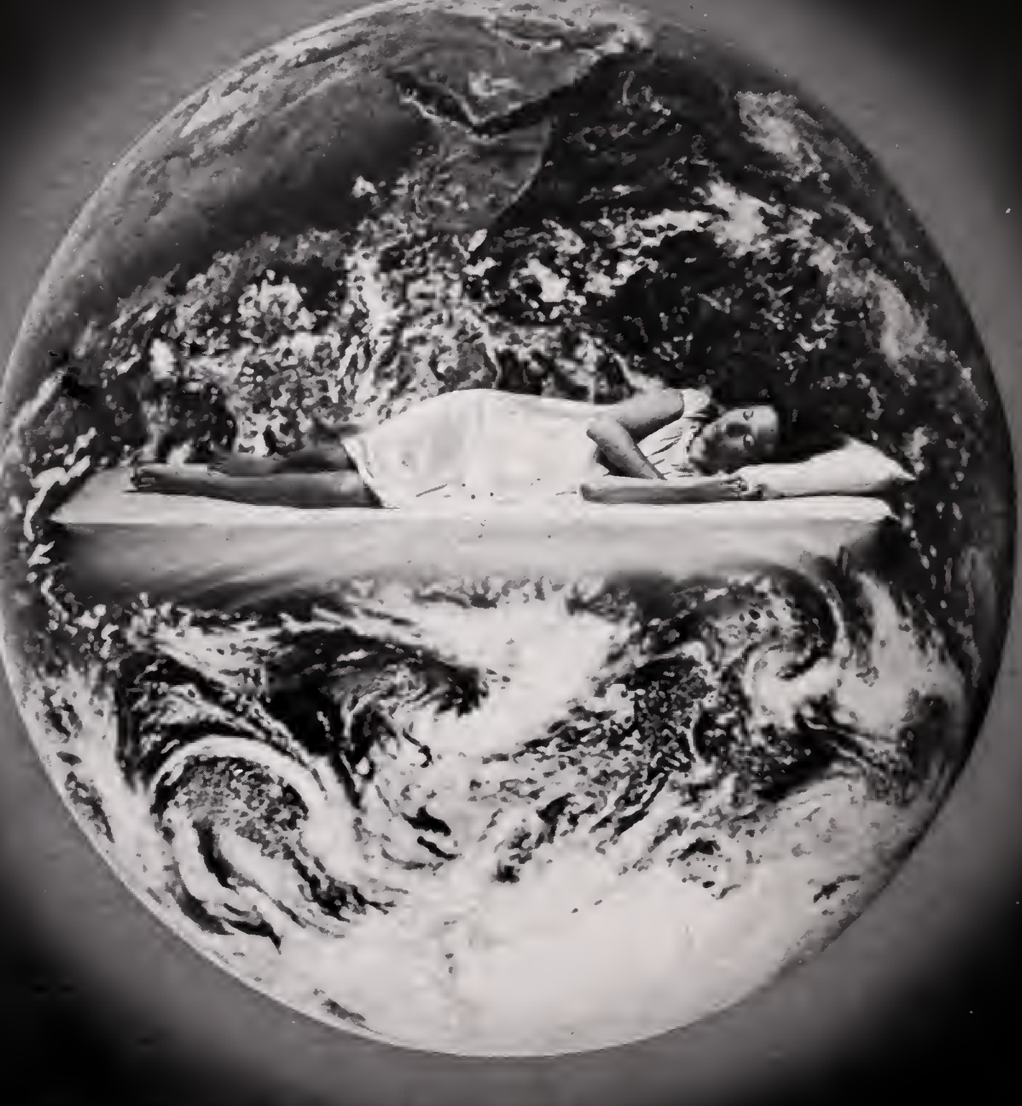

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Journal of the Missouri State Medical Association September 1985

v. 82 #9

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Missouri Medicine

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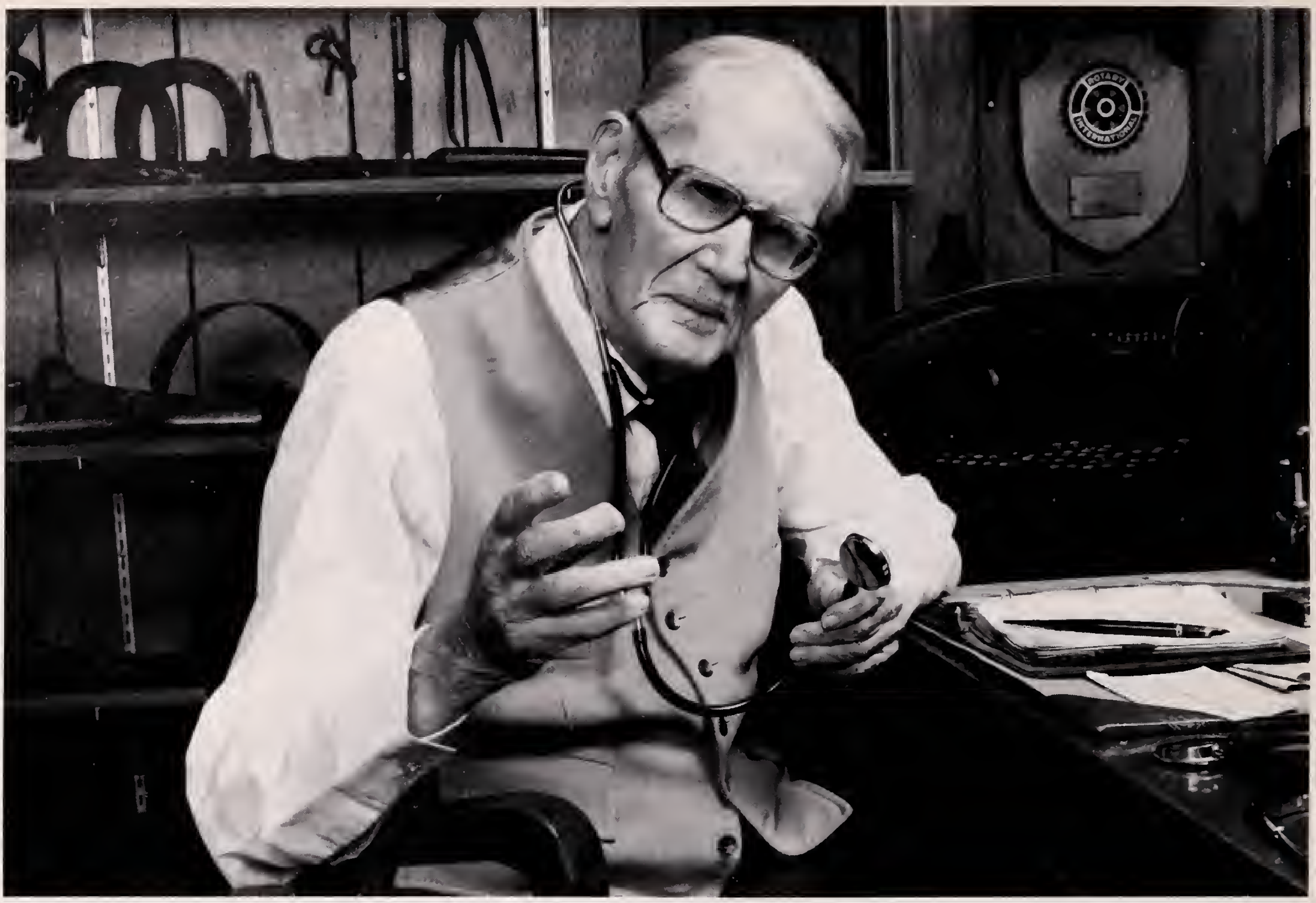

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PRINTING OFFICE
The Ovid Bell Press, Inc.
Fulton 65251

Missouri Medicine (ISSN 0026-6620) is published monthly by the Missouri State Medical Association, P.O. Box 1028, 113 Madison St., Jefferson City, MO 65102.

Subscription rates: $15 per year. Interns and Residents, $7.50 per year.

Second class postage paid at Jefferson City, Missouri and at additional mailing offices.

Postmaster: Send address changes to Missouri State Medical Association, c/o Membership Department, P.O. Box 1028, Jefferson City, MO 65102.

The articles published in *Missouri Medicine* represent the opinions of the authors, and do not necessarily reflect the official policy of the Missouri State Medical Association.

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"Mourning Dove," watercolor painting by Missouri artist *Terry L. Martin* of Columbia.

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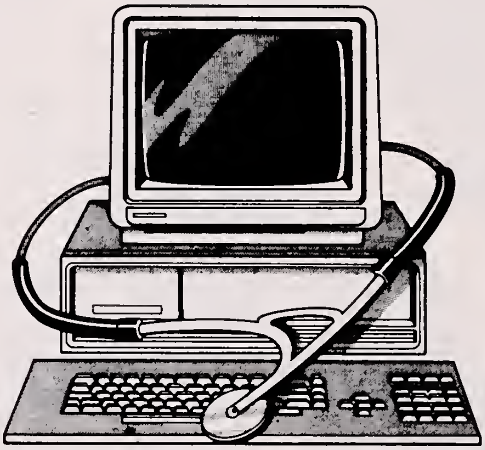

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MSMA Progress Notes

MDs must decide as Oct. 1 deadline nears for Medicare

With time running out on the October 1 deadline for physicians to make their Medicare determinations on whether to be "participating" or "non-participating" under the second year of the Deficit Reduction Act, physicians still don't have the decision-making information they need since final action has not yet been taken by Congress.

Under differing proposals adopted by two committees, the House would continue the fee freeze for another year on non-participating physicians. A House Ways and Means Committee proposal would grant reimbursement increases to participating physicians. Under the approach adopted by the Energy and Commerce Committee, new reimbursement tiers would be established.

The prevailing charge would be increased at the full economic index rate for those physicians who are currently "participating" and who continue to do so beginning Oct. 1, 1985 and for those physicians who are currently "non-participating," but who opt into the program on Oct. 1, 1985.

The prevailing charge would be increased by one-half of the economic index rate for those physicians who are currently "participating" but who opt out of the program beginning October 1, and for those physicians who are currently "non-participating" and continue to remain so on Oct. 1, 1985, but are accepting assignment on 100% of their Medicare claims.

Shortly after Congress returns from the recess on September 4, the Senate Finance Committee is expected to consider the Medicare fee freeze and participating/non-participating physician issues. Those and other budget matters likely will have to be resolved in a House-Senate conference. ■

CME activities easier to report

The Physician's Recognition Award has been modified to make it easier for physicians to report their continuing medical education activities.

During the June Annual Meeting, the AMA House of Delegates approved a Council on Medical Education recommendation that the previous six categories of educational activities be reduced to two: AMA Category 1 and All Other Categories. All Other Categories encompasses the previous AMA Categories 2-6.

The award still requires a minimum of 60 hours of CME in AMA Category I. The remaining 90 hours can be reported in All Other Categories. As in the past, all 150 hours required for the award can be reported in Category I. ■

Discrimination of FMGs based on country called "inappropriate"

The House of Delegates of the American Medical Association, at its Annual Meeting, June 16-20, 1985, considered the concern of foreign medical graduates about discrimination against physicians on the basis of country of medical education before evaluation of the quality of the medical education.

After due deliberations, the House of Delegates adopted a resolution stating that "the quality of a physician's medical education is an appropriate consideration in the recruitment and licensure of physicians and that discrimination against physicians on the basis of the country in which they completed their medical education is inappropriate." ■

Medical Alert: get involved now

Politicians are changing the practice of medicine . . . political decisions are changing the delivery of health care . . . legislators and elected officials are changing the very nature of the medical community. How can the medical community respond to the changes?

There is an answer; a means of guiding change in a direction which will benefit the quality of health care, physicians and, most important, patients. The answer is political action and the time is now.

On September 18-19, 1985, the AMA will sponsor Medical Alert: Prescription for Action, a political education conference designed to teach physicians, spouses and members of the medical community the most effective methods of political action.

Conferees will have the opportunity to meet and interact with a number of legislative leaders and important political officials — in workshops, through discussion sessions and at a Congressional reception to be held in the new Hart Senate Office Building.

Attendance is limited and the time remaining for registration, brief. For detailed information and registration materials, call the AMA Division of Political Education, 202-842-8442. ■

CPI rises in June; inflation still low

The consumer price index rose 3.8% in June compared with May, indicating that inflation continues to hold steady at a relatively low rate. Medical care (6.8%) and medical care services (6.0%) outpaced the overall CPI, but fell behind the CPI's average increase for all services.

The June increase for physician services (6.9%) was higher than the change for the last 12 months (5.5%), but lower than the annualized change for the last five years (8.1%). The hospital room index increased at a particularly low rate in June (2.9%). In comparison, its increases over the last 12 months and last five years were 6.9% and 11.4%, respectively. ■

Support grows for tort reform moves

Public support for reform of the professional liability system may be on the rise, according to an AMA opinion survey based on telephone interviews with 1,500 randomly selected adults.

In response to three separate questions, 44% of the public respondents said that they thought plaintiffs were just looking for an easy way to make money; 41% said that the amount of money awarded to patients by juries in malpractice suits was usually too much, and 61% said that there should be a limit on the amount that could be awarded to someone suing a physician for malpractice. The trends in opinion indicate a very positive public climate for reform, the AMA Council on Long Range Planning said in a report. "With a clear majority of the public in support of limits on malpractice awards, the current climate presents opportunities for organized medicine to increase state legislative activities in this area," the council said. ■

An open letter to members about unified membership

I can give you 100 billion good reasons to belong to the AMA: The $100 billion proposed for the health portion of the fiscal year 1986 Department of Health and Human Services budget.

Physicians and the patients we serve need a strong voice in how those dollars are spent — to ensure that patient care, teaching, and research are adequately funded. The best vehicle to achieve that needed voice is the American Medical Association.

Every physician is affected by the decisions made in Washington, D.C., regarding health care. Yet, less than half of the physicians in this country are AMA members.

Many, if not most, of our members support the AMA through membership. We send delegates to meetings each year to establish AMA policies. We are the AMA. But we need to make our AMA as strong as it can possibly be if we are to save the health care system we have built, a system that is the envy of the world.

We must stand together in our national professional association so that the AMA has the resources to carry out the urgent tasks which need to be accomplished, such as pursuing cost-effectiveness, ameliorating the professional liability crisis, improving physicians' image, and much, much more.

Just as the first responsibility of each physician is to the patient, we have a collective responsibility and vested interest in how our nation bridges the gap between the growing health needs of the people and limited national resources.

Because of the progressive "graying" of the population, the high cost of new technology, and other reasons, the clinical, socioeconomic and political challenges facing the nation will only grow larger with time, making the responsibility of our profession to the American people progressively larger.

The AMA is the only organization capable of representing the entire spectrum of medicine at the national level. Its House of Delegates is now 370 members strong, representing all 50 states and the territories of Guam and Puerto Rico, 65 specialty organizations, hospital medical staffs, medical schools, resident physicians and medical students and physicians in the military and public health services.

The AMA House is truly the Congress of American medicine, and every physician in the country should be willing to give it support — support that becomes more crucial with each passing year.

At a time when federal legislative and regulatory pressures constantly are increasing, American medicine needs a strong national voice.

For that reason the AMA House of Delegates in December, 1984, approved a drive for unified AMA membership with local, state and medical specialty societies.

For the same reason we endorse it now.

Larry G. Piepergerdes, M.D.
Chairman, MSMA Council

Letters to the Editor

Medicine's opinions should be aired here

Dear Dr. Burkey,

I want to thank Dr. Vacca for his letter published in the May 1985 issue of *Missouri Medicine* ("Physician responds to Medicare charges of 'abusive practice'"). I thought it was extremely well-written and expressed the concern shared by many of our colleagues.

I note also that, because of such reporting, *Missouri Medicine* has gone from "ho-hum" to "anticipated" on the reading list. We applaud their new format and wish them great success. I hope they will continue to have the courage to publish letters such as yours and also return to articles of general interest — both scientific and non-scientific. Most of us do not need highly specialized articles from *Missouri Medicine* — we get those elsewhere — we do need articles that express opinions and relate to our mutual concerns in all areas of our profession.

Thanks again.

Ray Wilbers, M.D.
Mexico

If they won't join us, beat 'em

Dear Dr. Burkey,

Yes, the rumor you've been hearing is true. A physician from St. Louis, Richard J. Gimpelson, M.D., is seeking the office of United States Senator from Missouri as a member of the Republican party. "What!," you say. "Can he be serious? He's a doctor. What does he know about being a senator?" Well, let me ask you, What do all those on Capitol Hill know about practicing medicine? Yet, the lack of a medical degree has not impeded them from meddling with the medical care of patients.

Those presently in Congress are no more innovative, conscientious, ethical, industrious, or knowledgable than we or anyone else in general. There is one major difference, however. Physicians are more solution oriented. If a problem is seen, they analyze it and endeavor to solve it. In contrast, presently many in Congress have a propensity only to talk about problems, not solutions. They tend to follow the crowd to see where it is going and then run like hell to get in front of the pack so it will appear that they are leading, claiming the good idea was their's all along. Physicians, on the other hand, must commit themselves to a course of action before the fact and then must stand behind that decision.

So, think about it. What is so unorthodox about a physician becoming a Senator? After all, who could know more about health care delivery than a health care provider? As far as the myriad of other critical issues addressed by the Senate are concerned, a physician can be just as effective or knowledgable as any other Senator. One doesn't have to be trained in politics to know what is right or wrong, just or unjust, fair or discriminatory, efficient or wasteful, beneficial or harmful, selfish or utilitarian, etc., ad nauseam. One only needs to be an informed, steadfast, and conscientious citizen.

Dr. Gimpelson feels he must seek high public office for the health and well-being of Missouri and the nation. He, like the rest of us in medicine, traveled that most arduous and rigorous course becoming a physician to care for people, not to be dictated to by bureaucrats and professional politicians who have very little interest in the quality of health care or compassion for the patient. It is not yet too late to modify the present course the government is taking to control health care. Rich Gimpelson has taken that first step by throwing his hat into the ring. It is up to each and every one of us to get behind him and do our part. Please, get involved.

It goes without saying that he's undertaking a Herculean task that will require much funding and lots of time. As wise old Ben Franklin said, "If we do not all hang together, then surely we all will hang separately."

Gary A. Muncy, M.D.
St. Louis

Quality Assurance means quality care

Dear Dr. Burkey,

I read Dr. Mohammad N. Akhter's article, "Quality Assurance under the Missouri PRO Program," in the June 1985 issue of *Missouri Medicine* with a great deal of interest. Having been totally involved with hospital accreditation, risk management and quality assessment activities in hospitals for over seven years, I try to review what is being published. Dr. Akhter's article is excellent and the Quality Screening Criteria listed in Table 1 are indeed essential to a good

(continued on page 574)

Letters

Quality Assurance (QA) program. However, it must be realized that these generic, occurrence screening criteria were developed specifically for the purpose of identifying actual or potential injuries to patients that may or may not have been preventable. Occurrence screening has been defined as the nonjudgmental reporting of an event that ideally should not have happened to a patient in a hospital even though the patient may have suffered no harm or inconvenience. It is not necessarily related to legal action but serves as an early warning system for actual or possible practice problems. And this is just good risk management which is only a part of quality assurance or quality assessment.

These criteria only identify uncommon or unusual events and do not give the total picture of QA. To truly assess the everyday clinical practice of medicine by health professionals further guidelines, parameters, and indicators of an objective type must be developed. This is the only way to establish the justification of the patient care and the appropriateness of the diagnosis and the treatment given. Clinically valid criteria covering the major aspects of the care given are essential.

The wave of the future for good quality assessment has been suggested by physicians, lawyers, industry and other third party payors including insurance companies and the government. Dr. Robert Cadmus of the Medical College of Wisconsin stated in the *AMA News* in August of 1979 that physicians have a dual responsibility, namely, that of patient care and that of the review of patient care and the latter is not well understood by the profession. In the March 22, 1985 *AMA News* two Boston lawyers suggested that the Hospital Economics Profile Policy (HEPP) is the wave of the future. "The financial risk is borne by the hospital, yet it is the physician's behavior that dictates the degree of risk, they contended. Hospitals must determine whether they continue in the traditional pattern or develop hospital policy to measure and control physician behavior. It was recommended a program be established by the hospital management and professional staff for the treatment of specific illnesses. The studied categories would include length of stay, necessity of admission, and the use of ancillary or support services.

In *The New England Journal of Medicine*, March 31, 1983 (Vol. 308 No. 13, p. 788-792), in a "Special Report: Competition in the Health-Care Marketplace" it states: "To ensure quality while controlling costs, physician groups will develop diagnostic protocols and standard treatment plans where they are appropriate. Sanctions will be imposed on nonconforming group members that will include required attendance at noon conferences and grand rounds; required use of protocols jointly agreed upon by physicians, hospitals, and insurance companies; required courses in medical education focused on individual weaknesses or needed strengths and skills; preceptor-like supervision; and expulsion from the group."

F. C. Dimond, Jr., M.D., wrote in the March-April 1985 (No. 2-85) *Medical Director's Letter*, the house organ of the National Medical Enterprises, Inc. Hospital Group, "At least two important support mechanisms bolster the QA Process, viz the uniform and consistent enforcement of the medical staff rules and regulations (which set standards of care) and the adoption of, and adherence to, specific patient care protocols. If the process is performed properly, the end result will be medical staff assurance, to the best degree possible, that there is one high level of quality care in the hospital and any of its satellite facilities. It also assures medical staff direction in the overall quality of patient care."

In summary, it would seem that Quality Assurance or better stated, Quality Assessment, is an essential to providing quality care to the patient. It must be done to assure cost effective care, to avoid unnecessary claims situations (or at least to be prepared to justify the care given), to comply with Medicare regulations, to satisfy the Missouri licensure requirements for hospitals, and to abide by the standards of the Joint Commission on Accreditation of Hospitals, if one so desires.

Robert F. Wortmann, M.D.
Shawnee Mission, Kansas

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References:

1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

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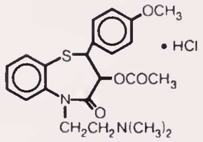

Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy** — CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

Issued 4/1/84

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

The physician of earlier years had precious little to offer, and he knew it.

Today's better than the 'good ole days'

"Bad Times Ahead for Medicine" was the headline of a recent AMA News article by an economist — and he wasn't even talking about DRGs, hospital quality assurance committees or malpractice rates! It makes one wonder what year in history — B.C. or A.D. — did someone first coin the phrase "the good ole days." Does that concept really apply to the practice of medicine? We well may have been going through a sort of "Golden Age of Medicine" for a few decades now, but the stories told of how it was just a few years back don't sound all that wonderful.

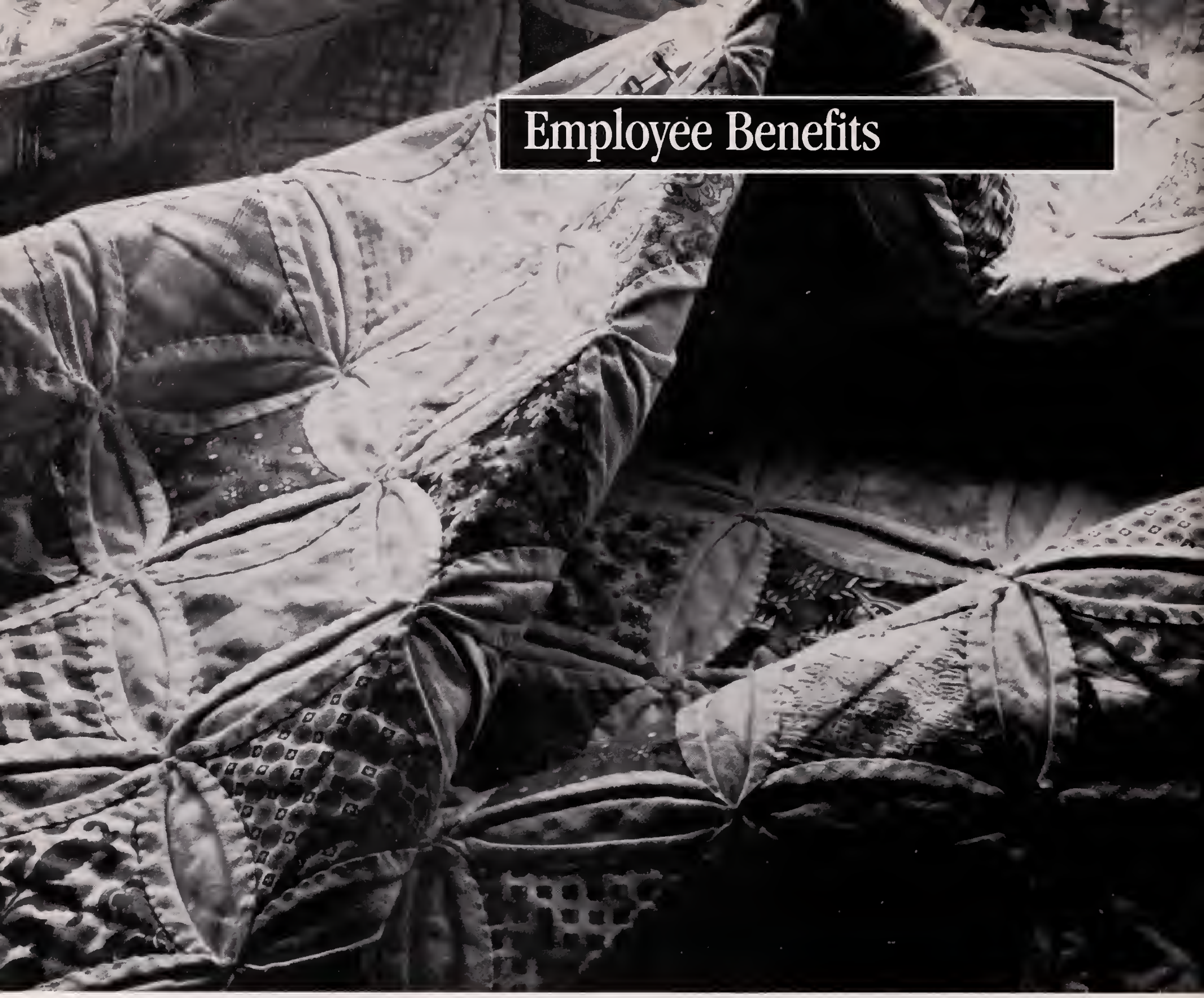
When faced with the big killers of the pre-antibiotic era — pneumonia, typhoid fever, scarlet fever, diphtheria and the like — the physician of earlier years had precious little to offer, and he knew it. The experience of sitting with a dying patient was all too common. If hospitalization was considered then, it was not to give the victim some means of improvement, but more often some place to die.

Competition among physicians in the days of rugged individualism was at times rather direct. Doctors were known to have fought over patients getting off the train at the station when they came to town for medical help. "Every man for himself" was the order of the day. The main question about fee splitting more often centered around the percentage of the split than the propriety of the system.

There was usually no sign-out system among those independent practitioners, and taking time off was a rarity. Sixty years ago it was common for physicians to see patients six days a week, plus a few hours on Sunday, 52 weeks a year. Many doctors' children who grew up in that time recall that they rarely saw their fathers. A trip out of town other than to an occasional medical meeting was a once-every-five years occasion.

And the monetary rewards for all this? Payment in chickens or garden products was common. The physician's income was not all that great at best. At least the doctors did not have to worry about the sort of large retirement investment program to formulate, after a life of treating poor or non-paying patients. After his 50 years of practice, the townspeople simply gave him a chicken dinner and a gold watch, and he was retired.

So we do face challenges late in the 20th century. AIDS is a new medical problem. The physician surplus is arriving along with preferred provider and other third party payer restrictions on how we practice. One in five of us is being sued for malpractice every year. In another five years, we are even going to have to start worrying about the killer bees buzzing in from the south. But would many of us trade places with our predecessors of the "good ole days"? I think not. ■



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PRESIDENT'S PAGE

by Walter A. German, M.D.

I very loudly and very pointedly say the dues of MSMA must be increased enough to take care of the projected expenses of the next few years.

Dues increase a must if MSMA is to grow

As I travel around our state and talk with many doctors, one question is asked a number of times. The question is: "How does our organization fund so many programs with so little dues?" This type of question rather surprises me since everyone's conception of doctors is that we want a lot, but want to pay only a little. Now you and I know that this is simply a *mis*conception. We simply want our money's worth of service.

I mention all of this as a preliminary to telling you that in my opinion our state dues are going to have to be increased. This year, our dues were raised by a mere $25 — basically nothing more than a cost of living increase that you and I see in our practice each year. This small increase has not allowed MSMA to provide needed additional services to its members. After all, the Missouri State Medical Association is a not-for-profit, professional, scientific organization whose main purpose is to offer services and benefits to all of its members. Nationwide, state medical association dues range from a high of $490 to a low of $150 annually. The average amount of dues paid is $271. What are Missouri's dues? $150 — the lowest in the nation!

In January of this year our projected revenue composed of dues (70%) and non-dues (30%) was $1,040,000. Our projected expenses were $1,036,601. As you can see, this is a narrow margin and a number of additional expenses have resulted in an erosion even of this margin. Such expenses (as seen in our own private offices) include higher than expected postal increases, FICA changes, unemployment taxes, and increased publication costs.

To put it more bluntly, these are hard and trying times for medicine, and much effort has to be expended at the state level to keep you and me in charge of our own destiny. These actions take money. At our current level there is just not enough funds to initiate and maintain proper programs of action, both scientific and legislative, for all of the physicians in Missouri. Now I am a practicing doctor just like you, and I understand patient visit decreases, surgery decreases, more red tape, and all of the rest of the current problems. However, in the face of these truths, I am telling you that MSMA must have more funds in order to continue to protect your rights and, at the same time, offer you more programs of action and more tangible benefits.

I don't have any exact dues increase in mind. This will be up to the MSMA Council and to the House of Delegates. However, my travels have made a definite impact upon me, and I very loudly and very pointedly say the dues of MSMA *must* be increased enough to take care of the projected expenses of the next few years. You and I can afford this increase with ease, and we must all join in and pay whatever reasonable figure is arrived at by our fellow physicians. It is a small price to pay for such excellent representation and protection afforded to you and your practice by the Missouri State Medical Association. ■

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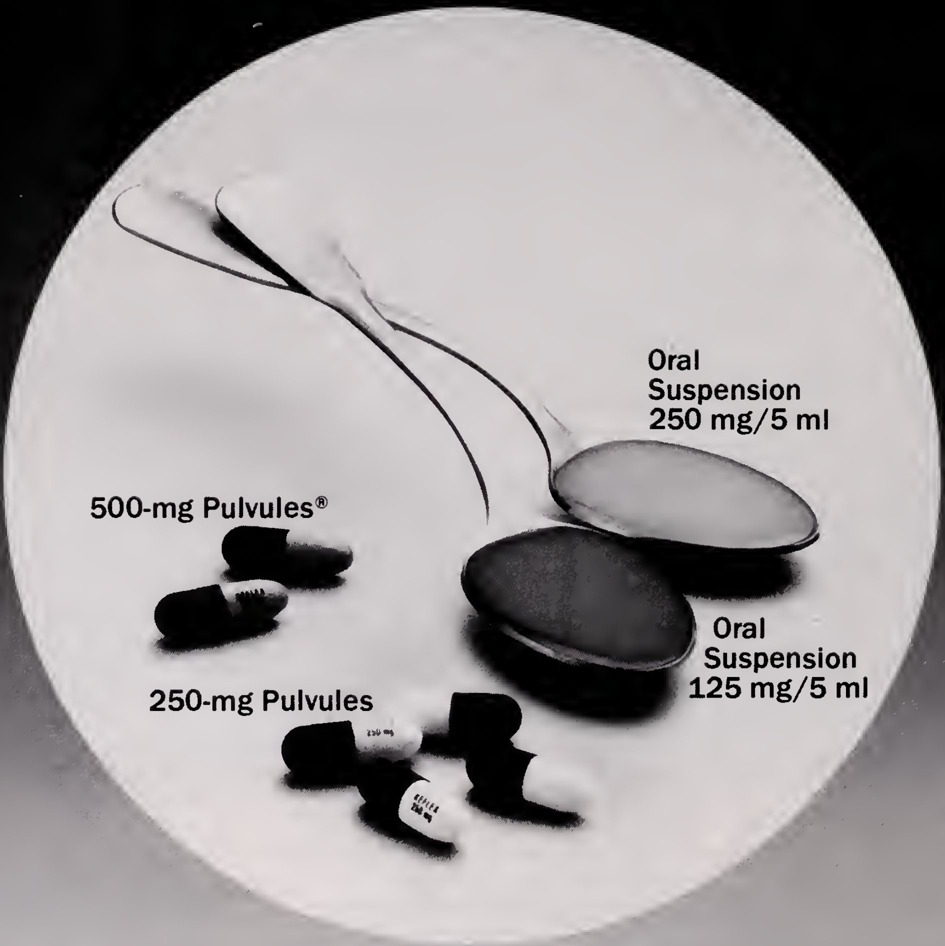

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Auxiliary Message

by Sandy Mitchell
MSMA Auxiliary
Legislation Chairman

It is difficult to express how rewarding it can be working with medical legislation in Missouri.

Here's a job opening that only you can fill

Needed: Legislative Activists.

Qualifications: Applicants must be concerned about legislative controls that are being placed on medicine; willing to speak and write expressing Medicine's views; and willing to take the time and effort to get to know legislators and allow them to know you and your concerns for the medical profession.

Anticipated Goals: Security in knowing that legislators are aware of Medicine's position on each piece of medically-related legislation — before the vote; better understanding of the legislative process; and excitement in knowing that your voice has been heard in government for the benefit of the medical profession.

Means to Goal Fulfillment: Make certain your spouse is an Auxiliary member. Encourage spouse participation in local and state legislative action including Key Contact membership, attendance at our Day at the Legislature, assistance in MedVote and reading Auxiliary publications about legislative efforts.

As a physician you may sign up for the PIP program and obtain first-hand legislative information and have immediate access to legislators. As a Key Contact, you will be given privileged information which will allow you to remain informed and fluent on current medical legislation.

Show pride in your profession. Support your county and state organizations in their efforts to have the voice of Medicine heard and respected.

Added Benefits: It is very difficult to express in a few paragraphs how rewarding and enjoyable it can be working with medical legislation in Missouri. One bonus is to better know your MSMA staff in Jefferson City — to learn of their respect in the legislative community and to understand their diligent work in the Capitol for one cause — Missouri Medicine.

The 1986 General Session is quickly approaching. One of the Auxiliary's priorities for the coming year is increased awareness of medical legislative issues. You can add the needed voice in telling medicine's message. You can be assured the MSMA Auxiliary will do its part writing letters, supporting good medical legislation and educating the public and legislators regarding potentially harmful or unjust legislation.

The effectiveness of our legislative efforts depends on both quality and quantity of involvement. Please join us in our efforts. Be a legislative activist and make your voice heard for Missouri medicine. The rewards will be reflected in your personal as well as your professional life. ■

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Gov. John Ashcroft talks with the MSMA about medical issues

At the close of the 1985 Missouri Legislative Session, Governor John D. Ashcroft sat down and talked with C. C. Swarens, MSMA executive director, about some of the medical issues that were before this year's General Assembly. The Governor shared his point of view on medical topics ranging from peer review confidentiality to the current professional liability crisis. Here are excerpts from that interview.

Talking it over. Gov. John Ashcroft (left) and C. C. Swarens discuss issues affecting the practice of medicine in Missouri. The Governor answered the Association's questions and provided some insight into his views on medical legislation.

Swarens: Good morning, Governor. Our first question has to deal with the peer review issue which was adopted by the legislature almost unanimously.

Ashcroft: What was the vote in the Senate?

Swarens: The vote in the Senate was 33 to nothing. The House vote was 148 to 2.

Ashcroft: That's what I thought it was.

Swarens: Even the senators who had expressed some opposition to the bill winded up voting for it. We were wondering, do you intend to sign the bill into law?

Ashcroft: Yes. We worked hard on the issue and we received a lot of mail on the issue. We consider it a good piece of legislation. I am aware of the need to strike a balance between the right of the person who has been injured or wrongfully dealt with for recovery and having a context in which medical services in our society can be rendered in a professional way without the service being so self-conscious about the potential for liability that we actually impair the public's benefit from the service. I think that's a major challenge that faces our society and as a philosophy we want to be able to move into a context which will provide that level of comfort in practice and will give people an opportunity, if they have been injured, for compensation for the injury.

Swarens: Another bill that was passed establishes a separate department of health. Have you had time to sit down and envision what you're going to do with the separate department of health?

Ashcroft: I will sign the bill into law. I have said for quite some time that we need to elevate the health priorities in our state. A couple of years ago when I looked at the Department of Social Services budget and saw that the highest health priority was in the mid-70s in terms of the budget priorities of that department, it became apparent to me that we simply could not persist in a context where the highest health priority was so low. It simply would be impossible to penetrate to get attention to health. My administration leans very favorably toward elevating the priority of health in this state and I think the state will be better for it.

Swarens: Looking at some of the issues which will be forthcoming nationwide as well as statewide, the professional liability crisis is upon us again. We went through this in 1975-76 era and passed some legislation regarding tort reform, however we are finding the problem arising again and worse than ever. You're from the Springfield area. I had a call from there just last week from an OB/GYN who received his premium notice. He has no pending suits and he has never been sued. He has a bill for $35,000 just for professional liability coverage next year. You can imagine what the feeling is. Looking toward next year, this will be one of the most important issues. Do you have any thoughts what should be done in the area of professional liability?

Ashcroft: I was attorney general and had the responsibility of oversight of the professional Liability Review Board. I felt like it was working. I think it was unfortunate that there were some shortcomings in the law itself, at least in the eyes of the Supreme Court which provided that the entire item be struck. The part it took out of the whole equation was some of the procedural costs. I suppose if there are ways for us to take procedural cost out they ought to be the first things to go rather than compensation for a truly injured person. I think we want to try and do what we can to make sure that people who have really been injured improperly or by inappropriate behavior recover. But it seems to be a way of penetrating some of the sort of cumbersome aspects of the process which got needy people — worthy people — to recover quicker at a lower overall rate.

"I think the Missouri State Medical Association plays a vital role in shaping public policy here in the capitol. When I see a bill that comes through the legislature related to health issues or any number of issues I feel better about it knowing the medical association has had its input — that whether I'm going to be in agreement with it or not — it's still going to be a better bill having that sort of encounter with the perspectives that are brought to bear by the Missouri State Medical Association."

Now, we're back in this area of needing to find a balance between making sure that people who have been injured recover and doing it in a context which provides for services to be rendered. At some point the financial stakes get so high for a potential of any accident or any difficulty arising from medical treatment that we either impair the kinds of treatment given by creating an environment in which there is no capacity for comfort and security in the administration of treatment or we drive the prices up so substantially for the public we will have found ourselves in a very counterproductive circumstance.

A couple of things are happening which are important. The Bar is getting together with the medical profession. I would hope that we could look to that sort of mutual involvement as a place where we would begin to see some agreed upon suggestions for solving this problem.

I think the Missouri State Medical Association plays a vital role in shaping public policy here in the Capitol. When I see a bill that comes through the legislature related to health issues or any number of issues I feel better about it knowing the medical association has had its input — that whether I'm going to be in agreement with it or not — it's still going to be a better bill having that sort of encounter with the perspectives that are brought to bear by the Missouri State Medical Association. Now, I hope that the perspectives that come out of this meeting between the Bar and the medical association will have some acceptable ways for us to deal with this. Anytime, in my judgement, you say a doctor is going to be spending $35,000 a year in medical malpractice insurance premiums — and this is not necessarily a high risk doctor — you're establishing a context in which clients of the medical profession are going to have to pay that. I think the public is willing that the medical profession be paid well, if not handsomely, but I don't think the public really looks forward to paying $750 a week before they even start to pay the doctor or pay for the lights or utilities or the medical supplies or the staffing.

Swarens: I think what the doctors are concerned about is, yes, that injured patients, victims of malpractice, have a means by which they are compensated and compensated adequately and quickly . . .

Ashcroft: . . . but not necessarily to make wealthy persons out of them that they might never have been before.

Swarens: That's right. I think our members also feel what needs to be taken into consideration is the fact that medicine isn't an exact science. We're constantly trying new things and sometimes they don't work. The doctor I was talking about with the $35,000 premium notice was an OB doctor. Today, everyone expects a perfect baby and if they don't get a perfect baby, they sue.

"At some point the financial stakes get so high for a potential of any accident or any difficulty arising from medical treatment that we either impair the kinds of treatment given by creating an environment in which there is no capacity for comfort and security in the administration of treatment or we drive the prices up so substantially for the public we will have found ourselves in a very counterproductive circumstance."

Ashcroft: Your mother got a perfect baby, didn't she?

Swarens: She sure did — it was my brother. (Laughter.) Going on to some other things, what about Medicaid? We know that healthcare, not only nationwide but also statewide, is becoming a bigger and bigger budget item. What does your administration think of the Medicaid situation and about improving the percentage of providers? We're having trouble with the number of good providers in Missouri that are willing to take care of Medicaid patients.

Ashcroft: Our Department of Social Services has been preparing and working with the request for proposals on a study. They have been doing some preliminary studies regarding delivery of health care to the poor. We would hope that we would learn some things which would enable us to bring some more people into the provisions category. But you're right. There are a large number of doctors who want absolutely nothing to do with the provision of service to people whose fees will be paid for out of government funds. I think the State has to accept part of the responsibility.

A couple of things that we've been very sensitive to in my administration — and I certainly don't want to create any undue hopes — but I have long been aware of the difficulty in terms of the delay of payments. I have signed into law a prompt payment bill which will require that payments be made within 45 days after the approval of the submission. I would say this, that there is still going to be disputes whether there has been an adequate basis for an approved bill but, if there has, any failure to pay within 45 days will trigger interest and the interest goes back to start after the 30th day so that it puts a real arm on government to begin to say "Let's reimburse these people in a businesslike way, in the context of getting the money paid as promptly as possible.

One other thing we have done: We've renegotiated our contract with American and Consultec which is our agent for paying these items. We have toughened the responsibility and indicated we want better performance. This has, in fact, resulted in the state having to pay substantially more to this provider for what we hope will be indeed better service. I don't want to invite an avalanche of mail but, if we don't see some noticeable improvement, I'd like to be in touch with you and your organization because we are, in fact, paying for better service and we would like to see better service because it's all related to the provision of health care to the people of the state.

Swarens: As you know, the Senate named a interim committee to study professional liability. Will your office monitor the committee and its activities this year?

Ashcroft: We will be very interested in monitoring and assessing the kinds of conclusions that appear to be under construction there. We'll be looking out for good ideas.

Swarens: You recently signed the "Living Will" bill into law this year. Any comments?

Ashcroft: The living will really is another way in which we try to provide a context of comfort in which medicine can be practiced without an inordinate expectation of legal activity or defense or responsibility. We basically said a doctor has a right to rely on certain representations by the patient that they don't want measures which would be, according to the bill, "death prolonging." I think that's a step in the right direction to give the medical profession an opportunity to practice the kind of medicine they want and need without having an undue threat of legal activity.

Swarens: Concerning the seat belt law, what has been the reaction from the citizens to your office in signing that? Has there been any?

Ashcroft: Oh, there has been, very honestly, a lot of citizens who urged us not to sign the seat belt law. They felt it was an undue restriction on the public's freedom. I think you have to weigh what kind of restriction it is. It's not the kind of restriction which indeed is going to impair our ability to make good decisions. It is not a curtailment of free speech. It doesn't invade a person's assets. It's really a way of saying we don't want you to become a burden on the state. We would like for you to continue to exercise a full range of your potentials, both governmentally and privately. My judgement is that when we have three or four years' experience with the seat belt law and we can basically demonstrate that we've saved hundreds of lives, it's going to be hard for people who have opposed the law to name the hundred or two hundred people in the state they would like to see dead — of course, there are some that would probably name the Governor — people they would like to see dead had there not been a seat belt law.

Swarens: I wish I had had you help me lobby that bill through. You did a better job just now then I did. I said the same things, only not as well.

Ashcroft: Well, I lobbied a little bit on that bill myself.

Swarens: Are there any areas of health care that I haven't brought up that you would like to mention? If not, I just want to say, we often ask for favors from government, is there any way the medical profession can be of assistance to the government?

Ashcroft: Well, there is one area in terms of health — it's more on the context of wellness. For a long time the state has really tried to suggest to business and industry to work on programs focusing on wellness for the people in the constituent groups who work for a particular business or in a particular area.

One of the things I want to try and do is promote wellness among state employees with programs relating to their fitness as well as to their approach to work. I think there's a great deal that remains to be achieved in terms of benefit. If I can manage to reduce by one day per year the number of sick days employees take that's a multimillion dollar savings. Our commitment to the wellness program has been minuscule in the past. I think we have a few thousand dollars in it but we're going to work hard to try to promote wellness. I think that's a health related issue so I'd be grateful for any participation or suggestions from your association and the medical profession in Missouri relating to ways to achieve that for state government workers. We're always suggesting it be done in private industry and I think if we can show a successful model in state government it'll be better for everyone.

Swarens: I'd like to thank you for your time this morning.

Ashcroft: Thank you. ■

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The 1985 Missouri General Assembly

How Will It Affect the Way You Practice Medicine in 1986?

At 11:30 p.m. on June 15, one half-hour before adjourning, the Missouri General Assembly gave final passage to House Bill (HB) 357, a bill providing for nondiscoverability of proceedings and findings of medical peer review committees.

The passage of HB 357 capped a six-month Session in which no bills detrimental to medicine were adopted. However, the same legislators did fail to tackle the ever-increasing crisis in professional liability.

A review of the Session indicates that several bills supported by the Missouri State Medical Association, either in their entirety or by amendment, were passed.

When Governor John Ashcroft signed HB 357 on July 29, most of those involved with medical peer review signed a breath of relief. In September 1984, the Missouri Supreme Court ruled that peer review records were discoverable in civil suits. That ruling placed the committees in the position of being unwilling expert witnesses in any possible suit which might be filed against a physician who had gone before the committee. It was feared the effectiveness of such committees in insuring quality medical care would deteriorate. Provisions in HB 357, which is now state law, require that materials pertaining to patient care that come before peer review committees remain confidential. The law does not, of course, provide immunity for any original information merely because it was presented before a committee.

Although opposed by trial attorneys, the bill received overwhelming support in both the Missouri House and Senate. Again in 1985, the MSMA spent much time opposing attempts by other providers to expand their scope of practice into the area of medicine. Lay midwives, nurse anesthetists, physical therapists, respiratory therapists and dietitians all failed this year to gain passage of their respective bills.

Three bills designed to address the medical professional liability crisis were reported favorably by a Senate commitee, but were shelved after two hours of discussion on the Senate floor. These bills would have set a cap of $350,000 on non-economic awards; required that awards of more than $50,000 be structured rather than given in a lump sum; and reduced awards by the amount of benefits the claimant received from collateral sources.

The Senate did establish a special Interim commit-

Reporting gunshot wounds mandated by state law

Governor John Ashcroft has signed into law a bill mandating the reporting of gunshot wounds to law enforcement officials. The new law requires that physicians and nurses who treat gunshot wounds must immediately report such occurrences to local law enforcement officials. The report must include the name and address of the wounded person, if known, along with an explanation of the nature of the wound and the circumstances under which the wound was treated.

Failure to make such reports constitutes the offense of medical deception, punishable as an infraction and carrying a maximum fine of $50. Persons making the required reports are immune from civil liability including any participation in any judicial proceedings involving the incident. The new law specifically supersedes the confidentiality of the physician/patient relationship.

This law is effective Sept. 28, 1985. A copy of this bill may be obtained by contacting the MSMA office in Jefferson City. ■

tee on Medical Malpractice and Product Liability which will conduct hearings this fall in an effort to determine the extent of the crisis and then develop proposed legislative remedies to introduce next January when the General Assembly reconvenes. The MSMA is working closely with the Committee to present medicine's views.

In addition, the House Critical Decisions Committee is making appearances around the state to solicit testimony from citizens regarding "critical" matters facing Missourians. The MSMA is coordinating efforts between the Committee and local physicians to insure that the liability crisis receives attention.

A list of some of the more than 200 bills which were of direct interest to medicine during the past Session, the action taken by the Legislature, and the Association's position on them appears on the next page.

Plaintiffs pay some costs if suit is "frivolous"

In passing SB 5, the Missouri General Assembly adopted the language printed below regarding frivolous suits. MSMA members are advised to read this section of the bill carefully and to make their attorneys aware of the provisions contained in this bill.

Senate Bill 5

Section 2. 1. In any civil action or part of a civil action pending before any division of any court of this state including the probate division of the circuit court, if the court finds after a hearing for such purpose that the cause was initiated or a defense was asserted or a motion was filed or any proceeding therein was had frivolously and in bad faith, the court shall require the party who initiated such cause, asserted such defense, filed such motion, or caused such proceeding to be had to pay the other party named in such action the amount of the costs attributable thereto and the reasonable expenses incurred by the party opposing such cause, defense, motion, or proceeding, including reasonable attorney's fees and compensation of said party for the time reasonably required of the party to oppose such cause, defense, motion or proceeding. Nothing in this section shall be construed as creating any liability on the part of any attorney representing a party in the proceeding who in good faith acted at the specific direction of his client in initiating the case, asserting the defense, filing the motion or causing the proceeding to be had.

2. The provisions of this section shall not apply to specific conduct occurring prior to the effective date of this section. The provisions of this section shall not apply to proceedings brought in the nature of a civil action where a convicted person seeks a judicial review of his conviction. ■

"Living Will" bill gives patients the right to die

A new law signed by Gov. John Ashcroft gives patients the right to direct the withholding of death-prolonging procedures. Under the law, any competent person 18 years of age or older may declare his desire that medical procedures which prolong the dying process be withheld if his condition is terminal and he is unable to participate in decisions regarding his medical treatment.

The bill (SB 51), dubbed the "living will" bill, was passed by both houses of the Missouri General Assembly before being sent to the Governor's desk.

The law does not authorize euthanasia or any affirmative act or omission to shorten life.

The declaration must be in writing and be signed and dated by the patient; if he is unable to write, he may direct another person to do so in the presence of at least two other witnesses. A physician may presume the patient was competent unless he has actual knowledge to the contrary. The patient is responsible for notifying the physician of the declaration and may request that it be placed in his medical records. A sample form is provided in the statute, but it is not necessary that it be followed for the declaration to be valid.

Compliance with the patient's declaration will not subject the physician or facility to criminal or civil liability; however, failure to comply may be considered unprofessional conduct unless there is a serious reason in the patient's best interests. A declaration to withhold treatment will be ineffective if the patient is pregnant.

A declaration may be revoked at any time and in any manner without regard to a patient's mental or physical condition. Failure to act on the revocation will not lend to criminal or civil liability unless the physician or facility had actual knowledge of it, or it was in the patient's medical records.

Any person who acts contrary to a patient's declaration, without a serious reason in the patient's best interests, will lose the rights of inheritance provided for in the patient's will. In addition, it will be a Class A misdemeanor to willfully conceal or destroy a declaration, or to forge a revocation. A person will be guilty of a Class B felony for forging a declaration of intent to withhold treatment or for concealing a revocation.

A physician or facility that is unable or unwilling to comply with the patient's declaration must take all reasonable steps to transfer the patient to another physician's care or to another facility. ■

If you are interested in becoming more involved in this legislative process which is making so many decisions about how you will practice medicine, join the MSMA Key Contact program which will keep you informed of all the latest legislative information and will help you affect the decisions being made. For information, write: MSMA Key Contacts, P.O. Box 1028, Jefferson City, MO 65102.

PASSED

Bill Number	Subject	Description	MSMA Position
SB 5	**Legal Changes**	Contains a provision requiring the plaintiff to pay certain costs if the court rules the suit was "frivolous." This could help in nuisance malpractice suits. Language in the bill is printed on page 587.	Supported Amendment
SB 25	**Department of Health**	A priority of the Association for many years, this bill upgrades the present Division of Health to full Department status. The Department will be responsible for its own budget and be reportable to the Governor, thus placing more emphasis on health in the state.	Supported
SB 43	**Seat Belts**	Requires drivers, front seat passengers and children between the ages of 4 and 16 to wear seat belts, effective July 1, 1987.	Supported
SB 51	**Living Will**	Establishes the right of competent individuals with terminal conditions to execute declarations directing the withholding or withdrawal of "death-prolonging" procedures. Physicians who, in good faith, carry out the intent of the declaration are immune from liability. Physicians unable to comply with the declaration must take reasonable steps to transfer the patient to another physician.	Supported Amendments
SB 54	**Gunshot Wounds**	Requires medical personnel to report treatment rendered to anyone with a gunshot wound. Reporting does not make a physician liable. Original bill included reporting of all knife wounds, but this was later dropped.	Supported Amendments
SB 90	**Prompt Payment**	Effective July 1, 1986, the state must pay interest on its bills, including Medicaid, when bills are not paid within 45 days. Interest is retroactive to the thirtieth day.	Supported
SB 295	**Radiation Monitoring**	Originally a State Radiation Protection Act, the substitute bill requires the state to develop an environmental radiation monitoring program and outlines state responsibilities for collecting and analyzing statistical data and responding to radiation emergencies.	Monitored
HB 357	**Peer Review Confidentiality**	Provides confidentiality for proceedings and findings of peer review committees.	Supported
HB 366	**Child Abuse**	Contains a section that says failure to provide nutrition to any child, regardless of condition, is considered child neglect. This replaced bill with specific and detailed "Baby Doe" language.	Supported Substitute
HB 435	**Poison Control Network**	Creates a statewide poison control program to extend information and techniques to health care professionals and the public.	Supported
HB 612	**Genetic Programs**	Gathers several genetic and metabolic disease programs under the Department of Health.	Monitored
HB 623	**Insurance-Waiting Period**	Among other group health insurance provisions, states that a succeeding insurer cannot require a waiting period when taking over coverage from another carrier.	Monitored

NOT PASSED

Bill Number	Subject	Description	MSMA Position
SB 1	**Certificate-of-Need**	Would have rewritten the states C-O-N statutes and extended the moratorium on construction of additional hospital and nursing home beds.	Monitored
SB 7	**Collateral Sources**	Would have reduced medical malpractice awards by the amount the claimant received from collateral sources.	Supported
SB 49	**Structured Awards**	Would have mandated that awards of over $50,000 in medical malpractice suits be paid in installments rather than in a lump sum.	Supported
SB 126	**Cap on Awards**	Would have placed a $350,000 limit on non-economic awards in medical malpractice cases.	Supported
SB 224/ HB 618	**Lay Midwives**	Would have licensed and permitted the practice of lay midwifery in "normal childbirths." A big push is expected for this bill next Session.	Opposed
SB 227	**Physical Therapists**	Would have permitted physical therapists to conduct certain screening procedures and fitness programs. MSMA opposes suggestions to expand the bill to license PT assistants.	Monitored
SB 371	**Physician Assistants**	Would have established a certification (licensing) system for physician assistants. Reached the Senate floor, but was defeated.	Opposed
HB 52	**Medical Records**	Would have required physicians to furnish copies of records upon request by a patient. This is already a portion of physicians' code of ethics. Bill has been amended over the years to remove objectionable portions.	Monitored
HB 54	**Social Workers**	Would have provided for licensing of social workers and limited the practice to those so licensed.	Opposed
HB 59	**Good Samaritan**	Would have expanded physicians' Good Samaritan statute to include any person with first aid training acting within the limits of their training.	Supported
HB 79	**Nurse Anesthetists**	Originally would have permitted the independent practice of NAs. MSMA and anesthesiologists worked with sponsor to change the bill to merely recognize NAs separately from the Nurse Practice Act.	Opposed/ Monitored
HB 90	**Baby Doe**	Would have added "Baby Doe" language to state statutes defining care for handicapped infants.	Opposed
HB 381	**Civil Immunity**	Would have extended immunity from civil damages to physicians rendering free medical care at the request of a political subdivision.	Supported
HB 434	**Uniform Billing**	Would have required medical care providers to submit their claims on uniform billing forms.	Monitored
HB 456	**Itemized Bills**	Would have required health care professionals to furnish patients an easily readable bill itemizing all services.	Monitored
HB 448	**Dietitians**	Would have provided for licensing of dietitians and limited the practice to those so licensed.	Opposed
HB 820	**Respiratory Therapists**	Would have provided for licensing of respiratory therapists and limited the practice to those so licensed.	Opposed

New Policies Adopted by House of Delegates

The MSMA House of Delegates at its annual convention in April passed a number of resolutions affecting the way Missouri physicians practice medicine. In particular, all MSMA members should be aware of the following four resolutions which were passed.

Unified Membership

This resolution, introduced by the MSMA Council, requires that the MSMA Constitution and Bylaws be changed to require that all MSMA members also be members of the AMA (unless they are already members of the American Osteopathic Association).

Due to the fact that the resolution requires a constitutional and bylaw change, it will lay over for one year (until the 1986 MSMA Annual Convention) before a final vote is taken.

Work of Action Committee With Hospitals and Medical Staffs

The MSMA Action Committee to Negotiate with Third Parties and Hospitals introduced this resolution requiring that the MSMA develop a cadre of 20-25 physicians, located throughout the state, to assist in negotiating the anticipated increase of problems between hospitals and medical staffs.

Hospital Medical Staff

A concern over medical staff bylaws prompted the MSMA Action Committee to Negotiate with Third Parties and Hospitals to introduce this resolution. The resolution asks that MSMA medical staff members be reminded that the medical staff may be regarded as a largely autonomous entity with respect to both administrative matters and clinical decision-making.

Medical staff members are also encouraged to obtain a separate legal counsel for their medical staff and not to depend on the hospital's counsel for legal assistance on matters concerning bylaws, rules and regulations.

Fee Splitting

Fee splitting is unethical and the MSMA reaffirmed its support of the position of *Current Opinions of the Judicial Council of the American Medical Association* (reprinted below) which warns of the improper nature of such schemes.

> 6.03 **FEE SPLITTING.** *Payment by one physician to another solely for the referral of a patient is fee splitting and is improper both for the physician making the payment and the physician receiving the payment.*
>
> *A physician may not accept payment of any kind, in any form, from any source, such as a pharmaceutical company or pharmacist, an optical company or the manufacturer of medical appliances and devices, for prescribing or referring a patient to said source for the purchase of drugs, glasses or appliances.*
>
> *In each case, the payment violates the requirement to deal honestly with patients and colleagues. The patient relies upon the advice of the physician on matters of referral. All referrals and prescriptions must be based on the skill and quality of the physician to whom the patient has been referred or the quality and efficacy of the drug or product prescribed. (II)*

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Missouri State Medical Association
1985-1986
Policy Manual

This manual shall be a guide for MSMA members to the stand taken by the House of Delegates of the Missouri State Medical Association on issues involving Association policy.

The manual will be updated and revised according to House actions. The date in parentheses following each policy statement denotes the year it was adopted by the House.

Abortion

An abortion should be considered illegal if performed by anyone other than a licensed physician in a place other than a licensed hospital. (1970)

Acupuncture

The MSMA urges the Missouri State Board of Registration for the Healing Arts to utilize such legal and statutory powers as may be available to declare that the principles apparently involved in the practice of acupuncture and shiatsu, if found to be scientifically valid and medically beneficial would fall under the definition of the practice of medicine. (1973)

Alcoholism — Adjunctive Treatment

The MSMA supports the use of the adjunctive treatment resources of Alcoholics Anonymous, Al-Anon, Ala-Teen and the National Council of Alcoholism local affiliate by physicians in treating patients. (1979)

Alcoholism — Pharmacy Liaison

The MSMA supports a closer cooperation between physicians and pharmacists in a public education program regarding the problem of abuse of legally prescribed drugs and alcohol. The professional education of physicians and pharmacists should include courses in these areas. (1979)

Alcoholism — Public Education

A uniform policy regarding alcohol and drug abuse education in schools is supported. In-depth education should be provided to Driver Education classes regarding drug and alcohol abuse as related to traffic safety. (1979)

Amphetamines — Use

The MSMA asks its members to restrict their use of amphetamines and other stimulant drugs to the treatment of specific, well-recognized medical indications such as narcolepsy, hyperkinesia, mild depression and starter doses for obesity. (1971)

Armed Services

The MSMA encourages the Department of Defense to take steps to attract physicians to serve in the Armed Forces Reserve. Physicians should be utilized according to their capabilities and training and compensated appropriately for their time. (1979)

Board of Healing Arts

The State Board of Healing Arts should be provided with a wide range of discipline powers including requiring errant doctors to seek counseling or additional education. Also, every state should be informed when any doctor has his license suspended, revoked or is placed on probation. (1976)

The MSMA opposes any legislation which would dilute the licensing power of the State Board of Registration for the Healing Arts to license those physicians of good ethical and moral character. (1975)

Cancer — Reporting

MSMA supports efforts to require hospitals to report to the state all malignant neoplasms with the exclusion of non-melanomatous cutaneous malignancies. This statistical data is necessary to determine relationships between cancer control efforts in the state. (1982)

Certificate-of-Need

Any Certificate-of-Need law in Missouri should completely exempt private physicians and their offices from provisions of the legislation and contain a dollar limit of at least $500,000 before a Certificate is required in remodeling or constructing of health care facilities. (1976)

CHAMPUS

The MSMA recommends that CHAMPUS discontinue the use of nonphysician health care providers due to a lack of documentation of cost-effectiveness and the resulting lower standard of health care for patients. (1981)

Chemotherapeutic Costs

The MSMA should sponsor appropriate legislation that would make mandatory the offering of insurance coverage for reimbursement of chemotherapeutic agents, particularly on an outpatient basis. (1977)

Chiropractic Policy

The MSMA is unaware of any scientific evidence that proves that spinal manipulation and adjustment are appropriate treatment for such health conditions as hypertension, heart disease, stroke, cancer, diabetes and infections. Therefore, the MSMA will continue to warn the public of the health hazards of entrusting the treatment of such conditions to practitioners who maintain that all disease is caused by the misalignment of the spinal vertebrae and can be cured by manual manipulation and adjustment of the spine.

A physician may refer a patient for diagnostic or therapeutic services to another physician, licensed limited practitioner or any other licensed provider of health care services whenever the physician feels that these services will benefit the patient. As in the case with physician referrals, limited practitioner referrals should be based on their individual competence and ability to perform service to the patient.

The MSMA also supports the right of every physician to choose whom he or she will accept as patients and also exercise his or her choice by the terms of contractual agreements with other physicians, medical groups, hospitals or other institutions. (1981)

CME Accreditation

The MSMA supports the concept that continuing medical education accrediting should be conducted at the state level with the AMA as the only CME accrediting body. (1980)

Community Professional Directories

It is not unethical for a physician to authorize the listing of his name and practice in a directory for professional or lay use which is intended to list all physicians in the community on a uniform and nondiscriminatory basis. The listing shall not include any self-aggrandizing statement or qualitative judgment regarding the physician's skills or competence. The *American Medical Directory* provides an example of the kind of information that may be properly listed in national as well as community directories for health service personnel. Likewise, specialties or specialty practices used in the *American Medical Directory* should set the pattern for specialty designations. (1975)

Confidentiality — Medical Records

The MSMA encourages the enactment of legislation which would fully protect the confidentiality of medical records and of professional or peer review activities which are based on review and evaluation of such records. (1978)

Confidentiality — Missouri Health Data Corporation

Missouri physicians strongly encourage the MHDC Board of Directors to retain control of their confidential information. (1982)

Cost Effectiveness

The MSMA encourages individual physicians to help moderate increases in medical care costs by avoiding over-utilization and by using appropriate restraints to keep fee increases more in line with the annual cost of living increases. The Association endorses the Voluntary Effort to restrain increases in hospital costs. (1978)

Death — Definition

A person shall be considered dead if in the announced opinion of a physician, based on ordinary standards of medical practice, he has experienced an irreversible cessation of spontaneous respiratory and circulatory functions. In the event that artificial means of support preclude a determination that these functions have ceased, a person shall be considered dead if in the announced opinion of a physician, based on ordinary standards of medical practice, he has experienced an irreversible cessation of spontaneous brain functions. Death shall have occurred at the time when the relevant functions ceased. (1976)

Dioxin

The MSMA supports an active campaign to bring accurate information on dioxin before the public to prevent irrational reaction and possibly unjustified public fright and to prevent dissemination of possible erroneous information until such time as epidemiological studies have been completed. (1983)

The MSMA supports continuing monitoring of dioxin research, recognizing that to date no serious human disease has been conclusively linked to exposure to the chemical. The findings of the AMA Council on Scientific Affairs Panel on Toxic Substances are supported by the MSMA. (1985)

Drinking Age

The MSMA supports legislation at the state and national levels to raise the legal drinking age to 21 years of age. (1984)

Drugs — Abuse of

The MSMA supports educational programs for junior high school students that will emphasize the hazards of drug abuse. (1982)

Drugs — Generic Prescribing

The MSMA opposes governmental interference into the practice of medicine through mandated generic prescribing of drugs. (1976)

Drugs — Use of Combination of

The Federal Food and Drug Administration should carefully study the prescribing habits of physicians before discontinuing a combination of drugs packaged together. (1974)

Drunk Drivers

The MSMA agrees to cooperate with the Legislature or proper agencies to remedy the dangerous problem of drunk drivers. (1974)

Education — Loans

The MSMA supports continued federal and state subsidized, low interest loan programs for medical students, with properly enforced repayment. (1982)

Education — Patient

The MSMA adopts the following guidelines for third party reimbursement for patient education:

1. The goal of patient education programs shall be to improve health and the delivery of health care services through cooperative efforts of informed patients and health professionals.
2. Patient education programs shall be provided under the guidance of an educational committee comprised of members of the health professions, and administration, and consumers.
3. Patient education committees will be responsible for the establishment, maintenance, and evaluation of all patient education programs.
4. Patient education services shall consist of planned efforts, with stated goals and objectives, based upon identifiable needs of patients and the resources of the health professionals.
5. Patient education services shall be provided under the direction of a practicing physician and a trained educator and must be appropriate to the immediate health needs of the patient.
6. Participation in such programs shall be by prescription of a practicing physician and shall be documented in the patient's chart. (1975)

Education — School Health

Factual, academically founded courses should be developed and implemented by the Missouri Department of Education to teach human physiology and pathophysiology at the elementary and secondary levels of the school system. (1974)

County medical societies are urged to work with local school districts to assist in providing comprehensive health education programs and the state colleges of Missouri are urged to prepare qualified health instructors trained to integrate health concepts into all the courses they teach. (1972)

Electroconvulsive Therapy

The Association supports the deletion of requirements that legal guardians obtain court orders authorizing electroconvulsive therapy for patients that have been declared incompetent. (1983)

Fee Splitting

The MSMA reaffirms its support of the AMA Judicial Council's position that the acceptance of financial consideration in exchange for patient referrals, or fee splitting, is unethical and improper. (1985)

Fireworks

The MSMA supports a ban on the sale of fireworks in Missouri. (1976)

Fluoridation

The MSMA, realizing the medical importance of natural occurring fluorine taken in proper concentration into the human body, recommends the adding of fluorine to all drinking water systems in Missouri in the concentration of one part per million. (1972)

Foreign Medical Graduates

MSMA Council and committees are encouraged to consult with Foreign Medical Graduate groups when subjects of interest come up. All physicians, Foreign Medical Graduates included, are encouraged to participate in their component societies, MSMA and AMA. (1982)

HTLV-III Antibody Testing & AIDS

The MSMA urges the U.S. Department of Health and Human Services to allow blood collection centers to continue testing for HTLV-III antibody, but asks that the centers be relieved of the responsibility of supplying test results to test subjects until appropriate scientific knowledge concerning the test and AIDS is available. (1985)

Handicapped

MSMA is involved in seeking positive ways to encourage training and rehabilitation for disabled persons. MSMA wants to work with existing organizations to remove physical and emotional barriers that prevent disabled people from working. (1982)

Health Systems Agencies

The MSMA supports a program of voluntary, locally based health planning designed to address particular local and regional needs and favors legislation repealing the National Health Planning Act. (1981)

Home Health Care

The concept of home health care and visiting nurses care as a proper and economical way to bring quality health care to Missouri citizens not requiring more expensive and acute care is favored by the Association. (1972)

Hospice

The MSMA supports legislation to encourage the establishment of physician-directed hospice care. (1978)

Hospital Medical Staffs

Since the hospital medical staff is a largely autonomous entity within the hospital, the MSMA supports the securing of separate legal counsel by medical staff members when considering matters of rules, regulations and bylaws. (1985)

Hospital — Preadmission Certification

The MSMA will continue to oppose implementation of hospital preadmission certification. (1974)

Immunization

MSMA supports legislation which would establish strong immunization requirements for preschool children. (1982)

Insurance — Charge for Extra Claim Forms

Physicians should feel free to charge for the additional service of filing more than one insurance claim form, especially if a different claim form is required rather than a photocopy of the original claim form. (1973)

Insurance — Insurance Company Communications

The MSMA urges health insurance companies to cease to communicate abusive and inappropriate language to patients regarding their physicians' fee structures and services. (1985)

Insurance — Maternity Coverage

The MSMA supports inclusion in all insurance policies for those in childbearing years of a clause providing complete maternity coverage.

In order to provide continuity of coverage, the following eligibility period should be written into all insurance policies concerning benefits for obstetric care: "A pregnancy which begins while the insurance is in force should be covered until the termination of the puerperium and until the newborn infant is discharged from the hospital to home care." (1974)

Insurance — New Waiting Periods

The MSMA believes employees should not have to undergo a new waiting period for coverage of preexisting illness whenever their employer changes insurance companies, particularly when the change is being made in the interest of controlling health care coverage costs. (1985)

Insurance — Psychiatric Illnesses

The MSMA recommends that the State require all health and accident insurance policies sold in Missouri provide coverage for psychiatric illnesses equivalent to benefits for other medical and physical illnesses. (1978) Reaffirmed (1985)

Insurance — Terminology

MSMA encourages local insurance carriers to be careful about using literature containing the wording "usual, customary and reasonable" describing insurance benefits paid. This leads some patients to believe physicians' charges are "unreasonable." MSMA also encourages physicians to include in their patient information materials an explanation as to why the amount billed may sometimes be more than the insurance benefit paid. (1982)

Laboratory — Collecting Fee

The MSMA supports payment under Medicaid to the physician for his service in collecting a specimen used for tests performed in an outside laboratory. (1977)

Licensing — Felon

As a general rule, the MSMA opposes the granting of a license to practice medicine to any physician who has been convicted of a felony. (1973)

Licensing — FMGs

The MSMA endorses the policy of accepting the "Fifth Pathway" for physician licensure in Missouri. (1975)

Licensure — Federal

The MSMA opposes any moves to require Federal licensure of health manpower. (1976)

Long-Term Health Policies

The MSMA supports AMA policy which asks all physicians to voluntarily do their part in helping the country to economically recover. (1982)

Malpractice — Countersuits

Any Missouri physician found not to be negligent in a malpractice suit shall have the assistance of the MSMA in determining if there exists a reasonable basis for the physician to commence an action for malicious prosecution arising out of such case. (1976)

Mandatory Assignment

The MSMA is opposed to "mandatory assignment" under Medicare. (1984)

Medicaid Program

The MSMA no longer endorses the Title XIX Medicaid Program because of the unreasonably low level of reimbursement for physicians' services. (1978)

Medical Examiner System

The establishment of the county medical examiner system as a replacement for the county coroner system is strongly recommended. (1971)

Mentally Incompetent Patients — Hospitalization

The MSMA urges extension of the time limit from seven to 21 days before the family of a mentally incompetent patient must petition the court for continuation of a hospitalization. (1985)

Missouri Patient Care Review Foundation Data

The MSMA asks that data from the MPCRF concerning decision-making criteria for Medicare admissions be made available to Missouri physicians as a way to ensure that denials are not having a negative impact on the quality of medical care for these patients. (1985)

Motorcycle Head Gear

The MSMA urges all motorcyclists to wear protective head gear (helmets) to prevent death and disability. (1977)

MSMF Loans

The Missouri State Medical Foundation requires membership in their state medical association for those medical students eligible for membership and receiving financial assistance from the Foundation. (1980)

National Health Insurance

Any system of national health insurance must be designed with the consultation and aid of practicing physicians with the welfare of the patient as the guiding principle. A mechanism should be provided so the patient realizes the value of medical services to the point of real participation in the payment for those services. (1974)

The MSMA endorses the American Medical Association's bill as the national health insurance plan best suited to maintaining the high quality of American medicine. (1976)

Nursing Education

The MSMA supports all present forms of nursing education as being essential to meeting the health care needs of the state and local community. (1980)

Nurse Practitioners

The MSMA supports the doctrine that physicians retain control of medical care and will challenge any person who is practicing medicine without a license, in the courts of law if necessary. (1978)

Optometrists — Drugs

The Association opposes the expansion of the Missouri Optometric Act which would allow the use of drugs in the practice of optometry. (1977)

Osteopaths — Association With

Medical doctors may consult or associate with Doctors of Osteopathy and participate in postgraduate education specifically designed for their needs. (1965)

Osteopaths — Membership

Both local and state medical societies may accept for full membership osteopathic physicians who are licensed to practice medicine in Missouri. (1970)

Physician Fees

The MSMA requests its members to voluntarily freeze their fees for all patients for one year. In addition, the MSMA requests its members to continue to consider the financial circumstances of each patient and to accept reduced fees when warranted. (1984)

Physician's Assistants

The MSMA opposes state licensure or certification of additional health care personnel because there is no reason to accept a second class (second level) of medicine. (1979)

Political Process

The Association encourages physicians to become "Key Contacts," thereby increasing medicine's role in influencing actions taken by the state General Assembly on issues of importance to our patients and our profession. (1983)

Primary Medical Care

Primary medical care shall be defined as only that care given by a licensed graduate of a medical or osteopathic school. (1977)

PSRO

The MSMA will work to insure that patient care is of a high quality, appropriate duration and is rendered in appropriate setting at a reasonable cost. The MSMA supports the elimination of all government directed peer review programs, including PSRO. (1981)

The MSMA supports requiring compatible peer review of the medical services offered in public and private medical facilities and in all governmental health care facilities. (1983)

Second Opinions in Surgery

The MSMA, while realizing the value of consultation, opposes the concept of mandatory second opinions and supports the position that when second or more opinions are mandated by any party that this party is responsible for any consultation fee and the choice of consultant is the responsibility of the patient and/or the attending physician. (1978)

Smoking

The MSMA supports legislation directed at designating non-smoking areas in public places and prohibits smoking at all MSMA House of Delegates meetings and scientific sessions held in conjunction with these meetings. (1981)

The MSMA actively supports legislation prohibiting cigarette smoking in public indoor areas. (1983)

Third Party Reimbursement

The MSMA urges third party payers, including the Division of Family Services, to establish economic incentives to physicians to encourage more in-office care. This would include payments for professional fees, laboratory and x-ray services, supplies and other ancillary services performed in a physician's office. (1982)

The MSMA supports equal reimbursement for equal professional services provided by a physician, regardless of his geographic location. (1982)

Unpaid Accounts — Interest

It is not in the best interest of the public or the profession to charge interest on an unpaid bill or note for professional services not paid within a prescribed period of time nor is it proper to charge a patient a flat collection fee if it becomes necessary to refer the account to an agency for collection.

It is not improper, however, for a physician to add a service charge, equal to the actual cost of rebilling, on accounts not paid within a reasonable time. Patients must be notified in advance about the existence of this practice. (1975)

Utilization Review — Participation

The MSMA supports the right of individual physicians voluntarily to elect not to participate in governmental review programs which they believe conflict with the principles of good medical practice when they have no contractual or ethical obligation to such program. (1976)

Utilization Review — Reimbursement

In those hospitals which conduct utilization review of any inpatient care, compensation of physicians for such review is a legitimate expense. The cost of such review should be included in hospital rates and reimbursable costs regardless of the source of payment. (1976)

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Wilfred E. Wooldridge, M.D.
Springfield

Thoughts on Our Concepts of Genetics

It seems to me we scientists may sometimes apply ideas too broadly, thinking what suits one situation must suit another. The field of genetics may be a good example. I can understand how a person would feel cozy and comfortable with the thought that there are predictable and unfailing patterns of genetic inheritance and that there is also the very devil to pay when they are transgressed.

Such belief assumes we are all products of the same inexorable biologic chain of events and that identical laws can be applied all the way from amoeba to the best of the sorry human race. I wonder about that.

Of course, the skilled geneticist can always seek refuge when things go wrong. He can pin it on mutation, which covers all sorts of sins. I really can't knock that because all of us must have an out, but there is one story I believe to be well substantiated that simply blows up some of this nice and orderly process of genes, chromosomes and the like. That story is about the English starling.

During the past 30 years I have repeatedly been told that a chap by the name of Scheffelin, who headed a pharmaceutical company of the same name, had a burst of naturalistic fervor just before, or just after, World War I. From England he brought several single pairs of birds and turned them loose in Central Park in New York City. I assume this is true because it is so generally believed and repeated and the individual identified.

I wish someone would discover what makes starlings tick so well. There's something big there that might give us a clue to greater things, but it may well set off a genetic cataclysm.

These feathered friends of Scheffelin included thrushes, larks, finches and starlings. All promptly disappeared except the starlings, which, as everyone knows to their regret, multiplied prodigiously.

Now, my confusion about the genetics of this situation: If the above is fact, how did this one pair of starlings manage to produce 10 trillion exuberantly healthy offspring? Why do we not see starlings with two heads, three wings or one leg? Why didn't brother and sister mating produce a sickly line of baby starlings unable to compete in avian society instead of taking it over? Why, like the Hapsburgs, did they not have big noses, hemophilia and, with such familial carrying-on, not be consigned to oblivion?

I really don't know the answers to these questions and everyone I have asked has been either conveniently evasive or outright honest and admitted they didn't know either. But, whatever the explanation, I wish someone would discover what makes starlings tick so well. There's something big there that might give us a clue to greater things, but it may well set off a genetic cataclysm.

Considering the failure of what I thought to be sacred principles of inheritance, the starlings may be the last thing around. With the human threat of the possible thermonuclear holocaust, we might just wind up with nothing but clouds of starlings and piles of staphylococci. The real Armegeddon may very well be the head-on meeting of those two tough customers, both evil.

Very disturbing! I wish I hadn't thought of it. ■

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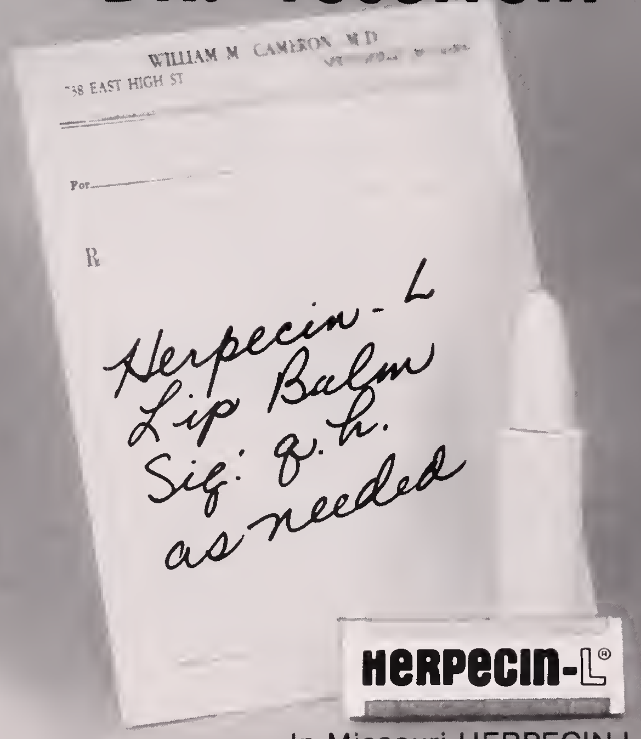

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Lymphoreticular Malignancies in the Setting of Acquired Immunodeficiency Syndrome (AIDS)

A Potential Model for Evolution of Human Lymphoid Neoplasms

Ali Khojasteh, M.D., Ralph D. Reynolds, M.D., and
Christina A. Mulloy
Columbia, Missouri

Those at high risk for developing Acquired Immunodeficiency Syndrome (AIDS) often have a history of repeated exposure to infectious agents, as do residents of some developing countries where lymphoreticular neoplasms with AIDS-like features are increasingly being reported. The links between AIDS and these "Mediterranean lymphomas" are explored and an aggressive multidisciplinary treatment design for lymphoreticular neoplasms in high risk populations for AIDS is proposed.

Acquired immunodeficiency syndrome (AIDS) continues to challenge medical researchers and health care systems in the United States and Western countries. Recent epidemiologic and clinical studies in underprivileged communities of the Third-World nations[1] have supported the notion that AIDS is a global health problem as well.

The underlying process leading to cell-mediated immunologic impairments, susceptibility to opportunistic infections and neoplastic disorders in AIDS patients, has been linked to human T-lymphotropic retroviruses III (HTLV-III).[2] The population at the highest risk for AIDS includes homosexuals with multiple partners, intravenous drug users, Haitians from low economic brackets and hemophiliacs.[3] With the exception of those receiving blood products for medical necessities, the high-risk groups share a common denominator of frequent antecedent exposures to infectious agents. Such a propensity has also been identified among the residents of developing countries, where lymphoreticular neoplasms may arise from a matrix of immunodeficiency disorders.[4] "Mediterranean abdominal lymphoma" represents a prototype of these immunodeficiency-linked lymphoproliferative malignancies.

Patient Population

Since the outbreak of AIDS among American homosexuals[5] to the date of preparation of this manuscript, approximately 100 cases of lymphoreticular neoplasms associated with AIDS have been described. These include detailed case reports of 19 patients.[6-15] The published information on the remaining patients is limited to one or several aspects of their disease.[14, 16-22] The data presented in this article have been pooled from descriptions of 75 international cases cited in the English literature.

Immunopathologic Finding

Non-Hodgkin's lymphomas affecting AIDS patients generally arise from malignant B-lymphocytes. On at least one occasion, the neoplastic B-cell clone has partially expressed a T-suppressor antigen.[12] The cell-mediated immunodeficiencies of these cases of lymphoma, similarly seen in typical AIDS patients, are characterized by an inverted ratio of circulating T-helper to T-suppressor cells, skin anergy or poor in vitro lymphocyte proliferative response. Disorders of humoral immunity (e.g., autoimmune thrombocytopenia, hemolytic anemia and monoclonal gammopathies), in contrast to de novo lymphoreticular neoplasms, are strikingly absent.

Histologic types of lymphoreticular malignancies in high-risk populations for AIDS range from lymphocytic leukemia to Hodgkin's disease. However, an overwhelming majority of reported cases are afflicted by aggressive non-Hodgkin's lymphomas. In order of frequency, undifferentiated lymphoma (Burkitt's or non-Burkitt's cell type), large-cell lymphoma, and immunoblastic sarcoma comprise the predominant histologic subtypes of these aggressive lymphomas. As advanced stage of the disease at presentation is a rule. The extranodal presentation with predilection for the central nervous system (CNS) is the remarkable pathologic findings in a majority of these cases. In patients with undifferentiated lymphoma, CNS involvement appears to be a part of secondary systemic dissemination of the disease, while large-cell CNS lymphoma often represents a primary process. The bone marrow, intestine, lung and kidney are less common foci of extranodal metastasis in these patients. Among five patients with AIDS-associated Hodgkin's disease, three presented at a limited stage of dissemination.[15, 21]

Clinical Features

To date, only one woman with a lymphoreticular disorder in the setting of AIDS has been reported.[20] The geographic distribution of afflicted patients includes the United States, Haiti, Trinidad, Italy and Japan. Nineteen extensively described cases of AIDS-associated lymphoid malignancies occurred in patients who ranged in age from 21 to 61 years. The occurrence of sexually transmitted or opportunistic infections is common to the majority of these patients. Frequent use of various recreational drugs dominates their social history. Coexistence of Kaposi's sarcoma has been noted in 10 patients.[8, 9, 19, 21] Most of the patients experienced antecedent weight loss, fever, diarrhea and constipation. Among 19 patients with detailed clinical data, 13 had had generalized lymphadenopathy for an average of 11 months prior to the diagnosis of lymphoproliferative malignancies. Confirmation of lymphoid neoplasms in patients at high risk for AIDS often coincides with evolving hepatosplenomegaly, anemia, leukopenia, elevated serum lactic dehydrogenase levels and polyclonal hyperglobulinemia. However, none of these findings appears to be specific. When neurologic deficits dominate the course of the disease in these patients, differentiation of an infectious etiology from lymphoma involving the brain frequently presents an enormous diagnostic and therapeutic challenge. Computed tomographic scans often have been incapable of differentiating between these two types of lesions and those of progressive multifocal leukoencephalopathy.[9] Considering the implication of this distinction and the fact that the majority of primary brain lymphomas have been discovered by postmortem examinations, histologic determination of CNS lesions in patients with AIDS appears mandatory.

Serologic evidence of a remote exposure or an ongoing infection with Epstein-Barr Virus (EBV) has been cited in nine of 19 case reports. Although cytomegalovirus (CMV) infection has typically been demonstrated in patients with Kaposi's sarcoma associated with AIDS, elevated titers of anti-CMV antibodies have also been seen in some of the cases of lymphoproliferative malignancies in the setting of AIDS.

The aggressive course of non-Hodgkin's lymphoma in those at high risk for AIDS is evidenced by a high mortality rate (80%) and a short survival (two days to nine months) among those whose disease processes have appeared as detailed case reports.[6-15] On the other hand, all five patients with AIDS-associated Hodgkin's disease are alive, and three of these cases are still in remission.[15-21] The common causes of death in AIDS patients with lymphoreticular neoplasms are concurrent infections, rapid tumor growth, complications of diagnostic and therapeutic measures or a combination.

Treatment

In spite of aggressive systemic chemotherapy regimen, intrathecal administration of chemotherapeutic agents, and radiation therapy, a complete remission of a short duration was achieved in only 12 (17%) patients of 70 analyzed cases of non-Hodgkin's lymphomas in this survey. In comparison, durable response rate of patients with AIDS-associated Hodgkin's disease approaches 60%. The use of interleukin-2, responsible for a measurable lymphoid tumor regression, has been reported in one patient.[23] Lymphomatous lesions of the brain, concurrent Kaposi's sarcoma and opportunistic infections are ominous prognostic signs in patients with lymphoreticular neoplasms and AIDS.[19]

Comments

The precise sequence of pathogenetic events leading to the genesis of malignant lymphoreticular disorders in patients with stigmata of AIDS is yet to be defined. Whether the same agent(s) causing AIDS (i.e., HTLV-III) will also trigger the development of lymphoma or leukemia in these patients remains uncertain. Although the intimate etiologic relationship between AIDS and its complicating lymphoproliferative malignancies in an animal model has strongly been suspected,[24] no pathogenetic links between the main subgroups of HTLV and human B-cell leukemias or lymphomas have been found. One can speculate that immunoregulatory impairments in AIDS and lymphoreticular malignancies are initiated by two separate etiologic factors. In this case, cell-mediated immunodeficiencies would pave the way for activation of oncogenic factor(s) and continuation of the growth of malignant clones. A pertinent genetic milieu may also be a prerequisite determinant for this evolution. The role of EBV in genesis of lymphoreticular malignancies afflicting the high-risk patients for AIDS is conjectural. Growing evidence that EBV contributes to the development of lymphoma in other immunodeficiency states, such as renal transplant,[25] and X-linked lymphoproliferative syndrome,[26] and frequent elevated anti-EBV antibodies in patients discussed in this paper,[6, 22] support the impression the EBV should be viewed as a major determinant in genesis of lymphoma associated with AIDS.

The reason for a high incidence of primary brain lymphoma associated with AIDS, or with the other immunodeficiency states, remains enigmatic. Lack of concurrent lymphoma elsewhere in these particular cases has raised the suspicion that microglia in the CNS are more susceptible to oncogenic stimuli than lymphoid tissues in other parts of the body.[27] Development of primary CNS lymphoma[28] and primary small intestinal lymphoma[4] in patients with quantitative or qualitative disorders of immunoglobulin-A (IgA) indicate a potential inhibitory effect of IgA on the evolution of lymphomas.

The question of whether AIDS is actually a newly emerging disease in man remains elusive. A group of lymphoproliferative neoplasms with clinicopathologic features simulating AIDS has increasingly been described in Third-World countries.[29] Endemic Burkitt's lymphoma was first reported from regions in Central Africa where typical cases of AIDS have recently been noted.[1] While the possibility of a malaria-induced immunodeficiency in children who are subsequently afflicted by the African variant of Burkitt's lymphoma has been suspected,[30] current data[31] do not confirm this speculation. Primary immunodeficiencies, on the other hand, have increasingly been described in patients with Mediterranean lymphoma.[4]

The early phase of this disease is often hallmarked by the presence of a circulating abnormal IgA fraction (alpha-heavy-chain disease protein). Subsequent deterioration to aggressive non-Hodgkin's lymphomas (i.e., undifferentiated, large-cell and immunoblastic lymphomas) or, rarely, Hodgkin's disease has been demonstrated.[4] The role of EBV in genesis of Mediterranean lymphoma has not been studied extensively. Behaving similarly to AIDS, Mediterranean lymphoma commonly manifests itself by weight loss, diarrhea and abdominal pain. Histologic findings of atrophic villi and lymphoplasmacytic infiltration of the small intestinal mucosa, resembling microscopic enteric changes of homosexuals[14] and Haitians[32] afflicted by AIDS, have been seen in patients with Mediterranean lymphoma.[4] Unlike AIDS victims, a history of homosexual contact and intravenous use of recreational drugs is only sporadically present in members of underdeveloped communities of Third-World countries where Mediterranean lymphoma (immunoproliferative small intestinal disease — IPSID) is prevalent. Patients with both disorders, however, share a background of frequent exposures to viral and microbial infections or parasitic infestation. Although the possibility of HTLV-III infection has not been investigated in endemic areas for IPSID, repeated infantile infectious enteritis leading to malnutrition and thymic atrophy appears primarily to contribute to the immunodeficiency state seen in high-risk cases for IPSID.[33] Since long-standing cell-mediated immunologic defects have been noted in some of these children who survive,[33] it is conceivable that such a persistent immunodeficiency promotes the evolution of the primary intestinal lymphoma.[29] The overall response rates of patients with so-called Mediterranean lymphoma to the therapy and the causes of death closely resemble those of AIDS-associated lymphoreticular neoplasms. Of note, primary brain lymphoma among patients with Mediterranean lymphoma occurs only on rare occasions.

Availability of modern immunologic studies in Third-World countries is a major tool to define the tentative links between AIDS-associated lymphoproliferative disorders and Mediterranean lymphomas.

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An Unusual Variant of Omphalomesenteric Duct

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In this case, the patient was found to have an intestinal umbilical fistula continuous with a sacular defect involving the mesenteric and antimesenteric borders of the small bowel. The origins of this and similar defects are discussed.

An omphalomesenteric duct is a well-known developmental defect due to persistence of the embryologic vitello-intestinal duct. This remnant characteristically is seen as a narrow segment of true small bowel connecting the antimesenteric border of a portion of the terminal ileum with the umbilicus. A vestige of this structure may be all that remains, and it may appear as a fibrous band attaching the bowel to the anterior abdominal wall forming a site about which volvulus of the intestine may occur.

The following case appears to be unique in that the proximal portion of the omphalomesenteric duct was incorporated into an anomalous segment of small bowel.

Case Report

A white male weighing 2.8 kg was born to a 22-year-old gravida 2, para 1 woman at 37 weeks' gestation. The prenatal course was uneventful and the delivery was uncomplicated, the infant receiving apgar scores of 7 and 8 at one and five minutes respectively. Physical examination revealed a healthy 37-week AGA infant with a 1-cm soft red fleshy tuft along the base of the umbilical cord. Bowel sounds were normal, and no abdominal distention, masses or organomegaly were detected. Soon after birth a meconium discharge was noted from this mucosal tuft and the patient was transferred to St. Louis Children's Hospital. He was placed on clear liquids preoperatively.

At operation the umbilical cord was excised circumferentially and the umbilical vessels were identified and ligated. Attention was then directed to the fistula, which was freed from umbilical attachments by dissecting down along the serosa. The small bowel was then delivered into the wound. A large bulbous outpouching was present opposite the fistula on the mesenteric border (Figs 1, 2). Because ectopic mucosa associated with the pouch was suspected, the anomalous segment was entirely resected and an end-to-end ileal anastomosis was used to close the defect. The patient's postoperative course was uncomplicated, and he was discharged on a regular diet. Pathologic review of the surgical specimen showed ectopic gastric mucosa on both antimesenteric and mesenteric borders with adjacent small bowel mucosa exhibiting acute inflammatory change.

Discussion

Omphalomesenteric duct anomalies represent a continuum of defects associated with the failure of obliteration of the embryonic communication, the vitello-intestinal duct between the gut and yolk sac. Normally, a progressive narrowing of the omphalomesenteric duct begins during the fifth week of development. Complete obliteration takes place by the seventh week, an observation first reported by Johann

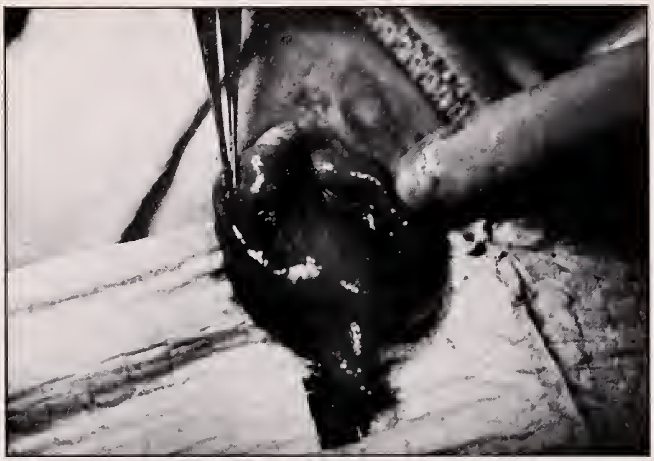

Figure 1. Anomaly prior to surgical resection.

Meckel in 1809.[1] This process correlates inversely with placental maturation, which by week seven takes over the function of the yolk sac as the primary nutritional support for the developing embryo. A Meckel's diverticulum, occurring with an incidence of 1%-3%, represents the most common result of incomplete obliteration of the omphalomesenteric duct.[2] Here it is the proximal portion of the duct that persists; however, failure of obliteration of the duct over its entire course results in an intestinal umbilical fistula. Other anomalies associated with omphalomesenteric duct remnants include mucosal lined cysts in the umbilical cord as well as cysts at or below the umbilicus (also referred to as strawberry tumor of umbilicus and enterocystoma, respectively). Persistence of the omphalomesenteric vessels also occurs, creating a fibrous attachment between the ileum and anterior abdominal wall.

All of these various anomalies arise from primitive gut typically involving only the antimesenteric border; they form true diverticuli and thus contain all layers common to normal small bowel. Ectopic mucosa is frequently present in these lesions. Segram et al reported 64% of resected diverticula contain gastric mucosa.[3] Pancreatic tissue alone, or in combination with gastric mucosa, is also commonly noted, with duodenal, jejunal and colonic mucosa less frequently identified.

Intestinal duplication can also occur in this region of the terminal ileum, usually as a cystic or tubular structure arising from the mesenteric border of the bowel, and this is sometimes confused with Meckel's diverticulum. Wynne et al reported a case in which Meckel's diverticulum was incorporated into the lumen of a more proximal segment of bowel.[4] In this case it was postulated that the anomaly arose from a duplication of bowel (mesenteric border) and Meckel's diverticulum (anti-mesenteric border) occurring simultaneously early in development, with selected resorption accounting for the observed pathologic findings. It is unlikely, however, that intestinal duplication occurring concurrently with an omphalomesenteric duct would account for the defect seen in this case. First, intestinal duplication does not typically contain ectopic mucosa, which was found to be present on both mesenteric and antimesenteric borders of this lesion. Secondly, while duplication may be able to account for the atypical appearance of the mesenteric border, it is most unlikely that this would be directly associated with the observed malformation involving both mesenteric and antimesenteric border. This anomaly does appear to be unique, and while a definitive explanation for its origin eludes us, it is interesting to consider the various possibilities.

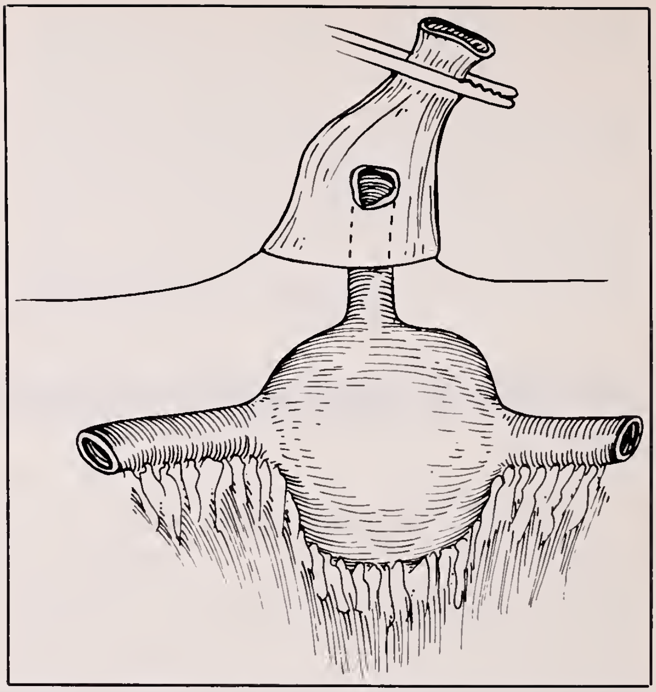

Figure 2. Schematic drawing of anomaly in situ.

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Endoscopic Duodenal Aspiration of Bile in Diagnosis of Gallbladder Disease

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Synthetic cholecystokinin (CCK-OP), used concomitantly with an endoscope, facilitates the collection of duodenal bile. In symptomatic patients with inconclusive oral cholescystography results, examination of the aspirated bile can aid in the diagnosis of biliary disease.

Microscopic examination of the aspirated duodenal bile, known as the Meltzer-Lyon test, was the first confirmatory test for biliary disease.[1-3] This procedure was in fairly common clinical use during the 1920s and the 1930s until refinement of oral cholecystography, introduced by Graham and Cole in 1924, overshadowed its usage.[3, 4]

Synthetic C-terminal octapeptide of cholecystokinin (CCK-OP) (Kinevac,® Squibb), which facilitates collection of the gallbladder bile, has become readily available only during the past decade. This has stimulated renewed interest in aspirated bile examination. Freeman and co-workers,[5, 6] as well as Porterfield et al,[7] have been able to identify a group of symptomatic patients who will benefit from cholecystectomy through microscopic examination of aspirated duodenal bile, even though repeated oral cholecystograms (OCGs) were normal.[5-7] The procedure for obtaining bile as outlined by them has the disadvantage of requiring fluoroscopic control for positioning of the aspirating tube, and proper positioning can be difficult under casual conditions. Foss[8] suggested the use of the upper gastrointestinal endoscope as the collecting device, and others[9] have successfully applied that technique. When an endoscope and CCK-OP are used concomitantly, most of the former difficulties in obtaining a gallbladder bile specimen are overcome.

Methods

To obtain the bile specimens, an end-viewing endoscope tip was positioned in the second portion of the duodenum, and 0.02 μg/kg of CCK-OP was administered intravenously over 30-60 seconds. (Visualization of the ampulla of Vater is frequently not possible with an end-viewing endoscope and placement of the endoscope tip need be only approximate.) Once the influx of dark gallbladder bile was noted in

Table 1

Results of Aspirated Bile Examination

Findings	No. of Patients
Examined	50
Positive results	35
Specifically treated	19
Symptomatically improved	19

Table 2

Pathological Findings on 18 Gallbladders

Findings	No. of Patients
Chronic Cholecystitis	17 (94%)
Unsuspected stones	5 (28%)
Cholesterolosis	5 (28%)
Normal	5 (5%)

the duodenum, a sterile aspiration trap was placed in line, and approximately 10 ml of the duodenal drainage was collected.

The duodenal aspirate was immediately examined with standard light microscopy for the presence of crystals, WBCs, or microorganisms; then it was centrifuged at 1500 rpm for five minutes and re-examined. A positive result was considered to be the presence of clumps of cholesterol or calcium bilirubinate crystals, more than 10 WBCs/HPF, or significant numbers of microorganisms with either examination. Immediate examination and immediate re-examination are to be emphasized because the biliary crystals may dissolve in duodenal aspirate in a matter of minutes. Polarized light microscopy was occasionally used to confirm the presence of crystals but was generally felt to be unnecessary.

Results

At Johnson County Memorial Hospital in Warrensburg, Missouri, 50 patients with normal or equivocal OCGs and/or ultrasonograms, but with persistent symptoms of biliary disease, underwent endoscopy and aspirated bile examination (Table 1). Thirty-five patients had positive results as determined by the presence of WBCs, crystals, or microorganisms in the duodenal aspirate. After careful counseling, 18 of the 35 patients elected to undergo cholecystectomy, and one patient with a heavy infestation of *Giardia lamblia* received specific medical therapy (metronidazole). After a minimum follow-up period of two years, all 18 of the patients who underwent cholecystectomy were symptomatically relieved, as was the one patient who received specific medical therapy.

Of the 16 patients declining cholecystectomy, 10 are known to have remained intermittently symptomatic, two have had no further difficulty, and four were lost to follow-up.

Of the 18 gallbladders removed (Table 2), 17 were histologically abnormal and five contained previously unrecognized stones. An additional five gallbladders had gross evidence of cholesterolosis.

Endoscopic examination of the esophagus, stomach and duodenum at the time of duodenal aspiration revealed no additional pathologic conditions that might have been a cause of upper abdominal pain. Generally, the entire procedure was accomplished in 30 minutes and often it was performed in the outpatient setting.

The complications resulting from endoscopic duodenal aspiration of bile were generally those attributable to endoscopy alone. Some patients noted a mild sore throat the day following examination, and one patient experienced mild aspiration pneumonitis with fever and rales. Following the administration of the CCK-OP, some of the patients experienced transient pain in the abdomen, and an occasional flushing or nausea was noted.

Discussion

Every clinician encounters the problem patient who has had repeated normal OCGs and/or ultrasonograms but whose symptoms suggest biliary disease. Surgeons remain reluctant to do elective cholecystectomies without radiographic evidence of biliary disease, yet 6% of patients with stones reportedly have normal OCGs.[9, 11] Others, without stones, have acalculous cholecystitis or cholesterolosis and benefit from cholecystectomy. Accurate identification of those symptomatic individuals with normal OCGs and/or ultrasonograms who will benefit from cholecystectomy is essential to avoid a high incidence of failure based on persistence of symptoms.

A carefully obtained history relating typical biliary pain should be an important diagnostic factor, as few disease processes produce similar symptoms. However, in the presence of a radiographically normal gallbladder, cholecystectomy based on history alone will fail to relieve symptoms in 35% of patients.[12] We, as well as others,[5, 6] believe a typical history with normal or equivocal OCGs and/or ultrasonograms is reason for further evaluation and not cholecystectomy. Further evaluation should include upper gastrointestinal endoscopy to rule out other, occult, upper gastrointestinal conditions as the source of symptoms. Concomitantly, duodenal bile can be aspirated for microscopic examination.

Based on our studies, microscopic examination of aspirated duodenal bile identifies patients with radiographically and/or ultrasonographically occult biliary disease. In our experience with 50 patients, we have found the procedure to be safe, rapid and reliable in identifying symptomatic patients who would benefit from cholecystectomy or specific medical therapy, even though OCGs and ultrasonograms were normal.

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The opinions or assertions expressed herein are those of the authors and are not to be construed as official or as necessarily reflecting the views of the Department of the Navy or the naval service at large.

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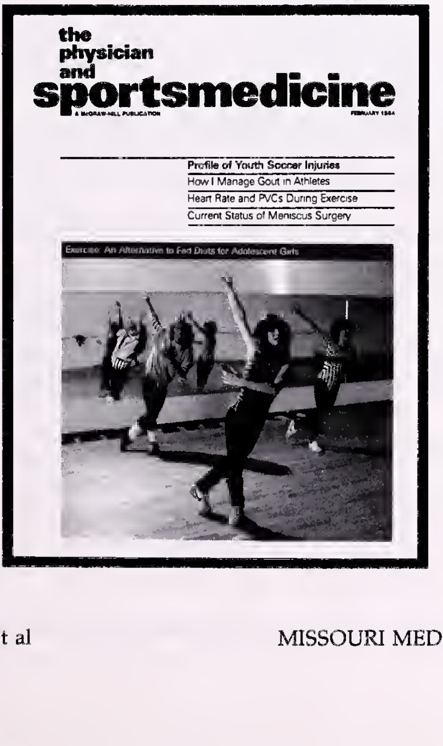
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Medical School News

University of Missouri-Kansas City

- **Robert S. Aks** has been named UMKC School of Medicine's Director of Administration. Mr. Aks, who most recently was with Menorah Medical Center in Kansas City, received his Master's degree in public administration with a concentration in health services administration from UMKC in 1983. He is a 1981 graduate of the University of Nevada-Reno, where he received a Bachelor of Science in health education.

- **Mark Groh**, a senior student at UMKC School of Medicine, is a recipient of a $2,500 Southern Medical Association Research Project Grant. Co-investigators on the project, "Hepatobiliary Scans in Chemically Induced Calculous Cholecystitis in Dogs," are senior **Jeff Dobkin, Tim Schubert, M.D.**, assistant professor of Medicine, and **Sara Yendes Shull, M.D.**, assistant professor of Medicine.

- Two new faculty members have begun their duties as docents at the UMKC School of Medicine. **David Bamberger, M.D.**, most recently was a fellow in infectious diseases at Veterans Administration Medical Center in Minneapolis, as well as an instructor in Medicine at the University of Minnesota Hospital. He received his medical degree from Baylor College of Medicine in Houston.

Gary Salzman, M.D., a 1980 graduate of UMKC School of Medicine, most recently was a Pulmonary fellow at Truman Medical Center. He did his internal medicine residency through Wake Forest University with North Carolina Baptist Hospital and Bowman Gray School of Medicine.

- Approximately 80 people were on hand for UMKC School of Medicine's seminar "A Look Back By Our Graduates." Speakers included graduates **Eva Frazer, M.D.**, class of 1981; **Paul Steele, M.D.**, class of 1978; **David Hayes, M.D.**, class of 1976; and **Harriett Langley, M.D.**, class of 1978. Also on the panel were consultants to the chancellor in the founding of the School, **Norman Cousins, Homer C. Wadsworth, Alfred P. Fishman, M.D.**, and **Boisfeuillet Jones**. Other panel members were **Vernon Wilson, M.D.**, former dean of the University of Missouri-Columbia School of Medicine, who provided support for the School in its early years; and **Nathan Stark, J.D.**, former undersecretary of the Department of Health and Human Services, who also was an early supporter of the School.

- **Mickey Woolard** has joined the staff of UMKC School of Medicine as coordinator of Development and Alumni Affairs. Mr. Wollard, who has been working in the area of development for the past three years with the Schools of Law, Business, and Dentistry at UMKC, will continue his role at the Dental School in addition to his new responsibilities with the School of Medicine.

St. Louis University

- **Arthur E. Baue, M.D.**, has been appointed professor of surgery and associate dean for postgraduate clinical affairs. He comes to the University from Yale University where he was chairman of the department of surgery for the past ten years.

Dr. Baue will direct the surgical education program at St. Mary's Health Center and will assist in the further development of the thoracic surgery program at St. Louis University Hospitals. He will also continue his work as chief editor of *Archives of Surgery*, a highly-recognized journal for surgeons.

- **J. Heinrich Joist, M.D., Ph.D.**, professor of medicine and pathology at St. Louis University School of Medicine and director of the division of hematology-oncology, has been awarded a six-month $20,000 grant by the Bi-State Hemophilia Association, Inc.

He will examine the factors and mechanisms involved in the causation of blood-induced synovitis and joint destruction in hemophiliacs.

- **James C. Lee, Ph.D.**, professor of biochemistry, St. Louis University School of Medicine, has been awarded a five-year grant of $471,319 by the National Institute of Neurological and Communicative Disorders and Stroke. The grant will be used to support his research with two anti-cancer drugs and their interactions with microtubule protein, a specific particle of living substance found in almost all cells.

- **Stephen M. Ayres, M.D.**, professor and chairman of the department of internal medicine, has left that position to become dean of the Virginia Commonwealth University School of Medicine, Richmond, Va.

- **Barry M. Chapnick, Ph.D.**, associate professor of pharmacology, has been awarded a three-year $184,483 grant by the National Heart, Lung and Blood Institute to study the products of arachidonic acid, a fatty acid present in virtually all cells of the body.

- **Donald O. Burst, M.D.**, senior instructor in the department of orthopedic surgery, is the new president of the St. Louis Orthopedic Society. Dr. Burst is a 1945 graduate of the School of Medicine.

- **Neal A. Siegel, Ph.D.**, post-doctoral research fellow, has been awarded a one-year renewable $24,996 National Research Service Award from the National Institute on Aging. He will study the aging kidney's impaired ability to regulate calcium use and absorption.

- **Sam J. W. Romeo, M.D.**, has been named associate dean for professional practice. Dr. Romeo worked in family practice for 10 years in Idaho and seven years in the military before he became involved in health care systems design and management.

He is a 1966 graduate of the St. Louis University School of Medicine.

■ **Thomas C. Westfall, Ph.D.**, professor and chairman of the department of pharmacology, has announced that the graduate training program in neuropharmacology has received a five-year, $297,356 grant from the National Institute of Neurological and Communicative Disorders and Stroke.

■ **Jerome D. Cohen, M.D.**, associate professor of internal medicine, recently attended the first International Conference on Preventative Cardiology in Moscow, U.S.S.R.

Dr. Cohen gave two presentations at the conference involving recent research he has conducted titled "Health Habits of Medical Students: Will Future Physicians Be Excellent Role Models?" and "Will Medical Students' Attitudes Toward Prevention Be More Positive Than Those of Practicing Physicians?"

■ **James H. Freel, M.D.**, associate professor of obstetrics and gynecology, has been awarded a four-year, $205,000 renewal grant for his work with the Gynecologic Oncology Group (GOG).

Funded by the National Cancer Institute, the GOG represents 35 medical centers across the country who work cooperatively in treating female cancer, compiling protocols for treatment and keeping five-year follow-up data.

Washington University

■ **R. Joseph Olk, M.D.**, assistant professor of clinical ophthalmology, has been elected to membership in The Retina Society, a national honorary for retina specialists.

Dr. Olk is one of 11 American ophthalmologists chosen this year by the society, which was founded in 1968 to encourage the exchange of information about diseases of the retina, the sensory membrane that lines the inner eye. The society's 150 members were selected for their medical and surgical experience, literary contributions and retinal experience.

■ Rush University in Chicago has conferred an honorary doctor of humane letters degree upon **Virginia V. Weldon, M.D.**, deputy vice chancellor of Washington University School of Medicine in St. Louis.

Dr. Weldon received the honorary doctorate at a recent special convocation to inaugurate **Leo Merrill Henikoff, M.D.**, as president of Rush University. While at Rush University, Weldon also delivered a speech on quality in medical education during a symposium on the role of academic health centers in the 21st century.

■ **Saul Boyarsky, M.D., J.D.**, professor of genitourinary surgery at Washington University School of Medicine in St. Louis, has been reelected to the General Committee of Revision of the United States Pharmacopeial Convention, Inc.

Dr. Boyarsky has served as professor of genitourinary surgery and professor of biomedical engineering at Washington University since 1970. He was head of the Division of Urological Surgery at the School of Medicine from 1970-73, and associate professor of pharmacology from 1970-80. He is currently on staff at Barnes Hospital, a sponsoring institution of the Washington University Medical Center.

■ **Gerald D. Fischbach, M.D.**, Edison Professor and head of the Department of Anatomy and Neurobiology at Washington University School of Medicine in St. Louis, has received a McKnight Award for Research Projects.

The McKnight Foundation initiated the McKnight Awards for Research Projects in 1977 to encourage experienced and gifted investigators to direct more of their efforts to the basic mechanisms of memory and diseases affecting memory. Fischbach will receive $150,000 over a three-year period for his research project titled, "Synapse Formation: Induction of Postsynaptic Chemoreceptors."

■ **M. Wayne Flye, M.D., Ph.D.**, has joined the surgical faculty at the Washington University School of Medicine as professor of surgery and director of the organ transplantation program.

Dr. Flye comes to St. Louis from the Yale University-New Haven Medical Center, where he has been professor of surgery and director of the division of organ transplantation and immunobiology. He was also acting director of general surgery at Yale.

Dr. Flye's primary area of interest is in liver transplantation. A liver transplantation program is scheduled to begin at Washington University Medical Center within the next few months.

■ **Douglas W. Hanto, M.D.**, will join the university faculty this month as a member of the organ transplantation group. He currently is a fellow in transplantation surgery in the Department of Surgery at the University of Minnesota Health Sciences Center.

Hanto received his undergraduate degree in chemistry from St. Olaf College and his medical degree from the University of Arizona College of Medicine. He served his internship and residency in general surgery at the University of Minnesota Health Sciences Center.

■ **Steven J. Rose, Ph.D.**, director of the Program in Physical Therapy at Washington University School of Medicine, has been named a Catherine Worthingham Fellow of the American Physical Therapy Association (APTA).

Dr. Rose, who is also co-director of the Department of Physical Therapy at Irene Walter Johnson Rehabilitation Institute, was recognized for national leadership in advancing the science, education and clinical practice of physical therapy. He is the sixth physical therapist to be honored with the fellowship, first awarded to former APTA president Catherine Worthingham in 1982.

■ **James E. Krause, Ph.D.**, assistant professor of neurobiology at Washington University School of Medicine in St. Louis, has been named one of the first Pew Scholars in the Biomedical Sciences by the Pew Memorial Trust of Philadelphia.

The 20 1985 Pew Scholars are junior faculty members at 17 medical schools and research institutes in the United States, and were selected because of their outstanding promise in basic science or clinical research to advance human health. Each of the scholars will receive a total of $200,000 over the next four years as encouragement to expand their scientific skills in biomedical sciences.

Dr. Krause's research is an examination of the cellular biochemistry and physiological regulation of peptide neurotransmitter substances in the central nervous system. He will use a model system of substance P secreting neurons in the basal ganglia of the rat.

The University of Missouri-Columbia

■ Four leading physicians from Europe: **Dr. Tonu Saartok** from Visby, Sweden; **Dr. Carlo Fabbriciani,** Rome, Italy; **Dr. J. L. Rhenter,** St. Etienne, France; and **Dr. Werner Mueller,** Basel, Switzerland; visited the University of Missouri-Columbia School of Medicine as members of the American Orthopaedic Society for Sports Medicine's 1985 European Traveling Fellowship Program. They were guests of **William C. Allen, M.D.,** professor and chief of the Division of Orthopaedic Surgery and president of the Society, and of the UMC Division of Orthopaedic Surgery. The four conducted an International Sports Medicine Symposium for UMC and private practice physicians.

■ **Rebecca A. Haefner,** a first-year student at the UMC School of Medicine, has been awarded a SmithKline Beckman Medical Perspectives Fellowship.

■ **Bruce Luxon, M.D.,** a research fellow in the Department of Medicine, has received the American Gastroenterological Association Post-Doctoral Fellowship. He received one of 12 awards given nationally. Dr. Luxon will use the $7,500 award for his research in membrane transport physiology in the liver.

■ **Barrie D. Smith, Ph.D.,** associate professor of anatomy, has been awarded a Fulbright grant to serve as a senior lecturer in Amman, Jordan. Approximately 2,500 Americans are being sent abroad for the 1985-1986 academic year under the Fulbright exchange program. Scholarships are awarded to American graduate students, teachers and professors to study, teach, lecture and conduct research abroad, and to foreign nationals to engage in similar activities in the United States.

■ **Carl Ide, M.D.,** professor of ophthalmology, presented a paper at the annual meeting of the Austrian Ophthalmological Society in Graz, Austria. He also lectured as a visiting professor in ophthalmology at the University of Munich in West Germany.

■ **Jack Curtis, M.D.,** was an invited speaker at the Neurovascular Society of North America/Society for Neurovascular Surgery in Chicago and presented talks on "Importance of the Presence and Timing of Atrial Transport in Cardiac Pacing" and "Cardiac Pacing for Carotid Sinus Hypersensitivity."

■ **Louis A. Sanner, M.D.,** a family practice resident at UMC, was among 20 recipients of a $1,500 award from the American Academy of Family Physicians to help finance his graduate training in family practice. Dr. Sanner was selected from 170 candidates on the basis of scholastic achievement, leadership qualities and qualification for and interest in family practice.

■ **Hugh E. Stephenson Jr., M.D.,** chief of staff and professor and chief of general surgery, presented a paper on open chest resuscitation at the fourth National Conference on Standards and Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiac Care sponsored by the American Heart Association in Dallas. He also was a moderator for two conferences in May: the Brain Preservation session at the meeting of the Neurovascular Society of North America/Society for Neurovascular Surgery in Chicago and the session on Artificial Circulation in Lake Geneva, WI.

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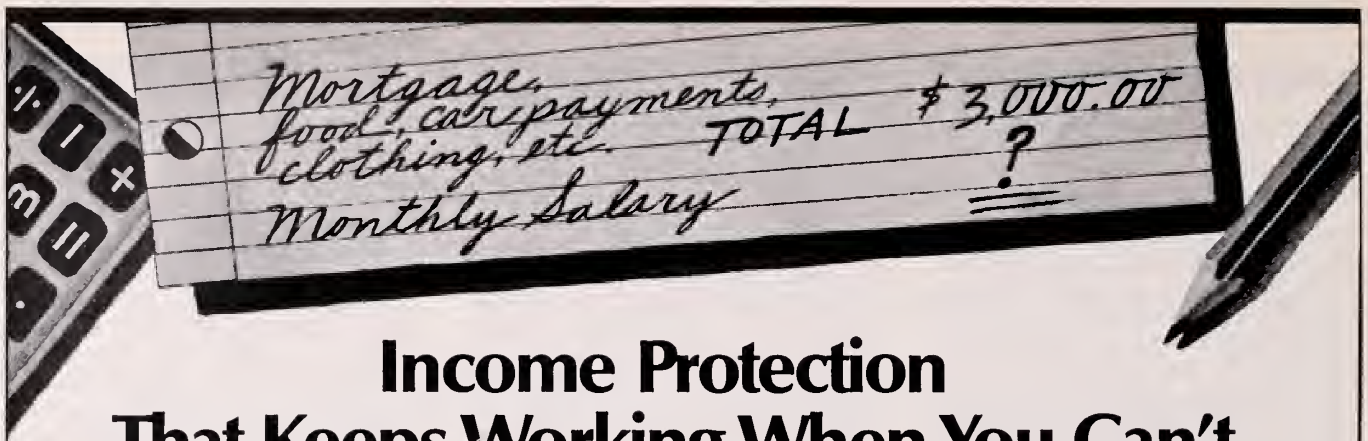

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Continuing Medical Education

September

5-7 **Mid-American Conference on Rural Health** — Location: Hot Springs, Arkansas. Contact: Christy Snow, Coordinator, University of Missouri-Kansas City, CME, 2220 Holmes, Kansas City 64108. 816-276-1339.

6 **Primary Care Update** — Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

7 **Heart and Mind: Neurocardiology Update** — Location: Kansas City Hyatt Regency Hotel. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

12 **New Antibiotics and Difficult Infections** — Location: Holiday Inn Westport, St. Louis. Contact: Anita Herbst, St. Louis University School of Medicine, CME, 1402 S. Grand Blvd., St. Louis 63104. 314-664-9800.

12-13 **Annual Surgery Symposium** — Location: Kansas City Hyatt Regency Hotel. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

12-14 **Clinical Hyperthermia Symposium and Workshop** — Location: Mallinckrodt Institute of Radiology. Contact: Bahman Emami, M.D., Symposium Chairman, Division of Radiation Oncology, Mallinckrodt Institute of Radiology, 510 S. Kingshighway Blvd., St. Louis 63110. 314-362-7100.

13-20 **Low Back Problems** — Location: Mississippi Queen, from St. Louis to St. Paul. Contact: Loretta Giacoletto, Washington University School of Medicine, CME, Box 8063, 660 S. Euclid Ave., St. Louis 63110. 314-454-3853.

14 **Schizophrenia: Aiming for Recovery** — Location: St. Louis University School of Nursing. Contact: Anita Herbst, St. Louis University School of Medicine, CME, 1402 S. Grand Blvd., St. Louis 63104. 314-664-9800.

15 **Colon Cancer Screening** — Location: Harry S Truman VA Hospital, Columbia. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

16 **Wendell G. Scott Lecture** — by M. Paul Capp, M.D. Location: Mallinckrodt Institute of Radiology. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 S. Kingshighway Blvd., St. Louis 63110. 314-362-7100.

17-19 **Fourth Annual Symposium on Geriatrics and Gerontology:** Pharmacology and the Aging Individual — Cosponsors: St. Louis University, St. Louis College of Pharmacy and Veterans Administration. Contact: Cheryl Duff, Conference Secretary, VA Medical Center, CRECC (111G-JB), St. Louis 63125. 314-894-4659.

18-20 **Clinical Applications of Doppler and Two Dimensional Echocardiography** — Location: St. Louis Sheraton Plaza Hotel. Contact: Jeanne Nelson, 314-771-7600; ext. 3807.

19 **Quarterly Tumor Board Meeting** — Ellis Fischel State Cancer Center. Contact: Janice Gentile, Ellis Fischel State Cancer Center, 115 Business Loop 70 West, Columbia, 65203. 314-875-2100. extension 398.

19-20 **Cardiology: What's Good? What's Bad? What's Fad?** — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington School of Medicine, Box 8063, 660 S. Euclid, St. Louis 63110. 314-362-6893.

19-20 **Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

21 **Hand Injuries in the Workplace: Medical and Economic Aspects** — Location: St. Louis University Learning Resources Center. Contact: Anita Herbst, St. Louis University School of Medicine, CME, 1402 S. Grand Blvd., St. Louis 63104. 314-664-9800.

25-26 **Advanced Cardiac Life Support Provider Course** — Location: University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

27-29 **Second Midwest Regional Conference on Women in Medicine** — Location: Kansas City Alameda Plaza Hotel. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

28-29 **Pediatric Nuclear Medicine and More** — Location: St. Louis Airport Hilton Inn. Contact: Lynn Hendershott, RPH, Veterans Administration Medical Center. 314-652-4100; ext. 682.

October

3 **Hypertension in the 80s: Where We Are; Where We Are Going** — Location: Washington University School of Medicine. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis 63100. 314-362-6893.

4 **Organ Transplantation** — Location: Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

9 **Considerations in Coronary Artery Disease** — Location: St. Louis Holiday Inn Westport. Contact: Anita Herbst, St. Louis University School of Medicine, CME, 1402 S. Grand Blvd., St. Louis 63104. 314-664-9800.

9-11 **Annual Internal Medicine Symposium** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

10-11 **Advanced Trauma Life Support Provider Course** — Location: University of Kansas Medical Center. Contact: Mrs. Jody Scott, Dept. of Surgery, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-6124.

14 **Common Abdominal Emergencies in Infants and Children** — City-Wide Radiology Conference. Location: Mallinckrodt Institute of Radiology. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 S. Kingshighway, St. Louis 63110. 314-362-7100.

16 **Infection Control** — Location: Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

18-19 **Twenty-eighth Annual Physicians Weekend** — Location: UMC School of Medicine Auditorium. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

19 **Black Health Care** — Location: Kansas City Westin Crown Center. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

22-23 **Medicine and Religion: The Supreme Being, the Supreme Court, and the Almighty Dollar** — Location: University of Kansas Medical Center. Contact: Promotion Coordinator, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4488.

24-26 **Advances in Rheumatology Symposium** — Location: UMC School of Medicine Auditorium. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

November

1 **Cardiac Arrhythmias: New Drugs** — Location: Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

4-6 **Organizational Systems** — Location: Kansas City, Missouri. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

6 **Fourth Annual Symposium in Geriatric Medicine: An Update for the Practicing Physician** — Location: St. Louis Holiday Inn Westport. Contact: Anita Herbst, St. Louis University School of Medicine, CME, 1402 S. Grand Blvd., St. Louis 63104. 314-664-9800.

6-8 **Advanced Cardiac Life Support Provider Course** — Location: University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

7-8 **COPD — Insight to Successful Management** — Location: Columbia, Missouri. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

7-9 **Annual Fall Conference** — Location: Kansas City Alameda Plaza Hotel. Contact: Alta L. Bingham, Executive Director, Kansas City Southwest Clinical Society, 2220 Holmes, Kansas City 64108. 816-276-1339.

8 **Advanced Cardiac Life Support Instructor Course** — Location: University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

8 **Dementia** — Location: Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

11 **MR Contrast Agents** — City-Wide Radiology Conference. Location: Mallinckrodt Institute of Radiology. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 S. Kingshighway, St. Louis 63110. 314-362-7100.

11-15 **Certification Exam in Infection Control** — Location: Columbia Holiday Inn West. Contact: Weldon D. Webb, University of Missouri-Columbia, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

14-15 **Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow, Kansas City, KS 66103. 913-588-4480.

15 **Advanced Trauma Life Support Refresher Course** — Location: University of Kansas Medical Center. Contact: Mrs. Jody Scott, Dept. of Surgery, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-6124.

15-17 **Twelfth Annual Symposium: Anesthesia and the Geriatric Patient** — Location: Washington University School of Medicine. Contact: Geriatric Symposium, Dept. of Anesthesiology, Washington University School of Medicine, 660 S. Euclid Ave., St. Louis 63110.

21 **Provocative Inhalation Challenge and Hyperreactive Upper and Lower Airways** — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, St. Louis 63110. 314-362-6893.

21-22 **Obstetrics and Gynecology for the Primary Physician** — Location: Kansas City Alameda Plaza Hotel. Contact: Christy Snow, Coordinator, University of Missouri-Kansas City School of Medicine, 2220 Holmes, Kansas City 64108. 816-276-1339.

TBA **Pediatric Neurology for the Practicing Physician** — Location: St. Louis University Learning Resources Center. Contact: Anita Herbst, St. Louis University School of Medicine, CME, 1402 S. Grand Blvd., St. Louis 63104. 314-664-9800.

December

4 **Endocrinology and Metabolism** — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

5-7 **The Heart 1985** — Location: Kansas City Alameda Plaza Hotel. Contact: Christy Snow, Coordinator, University of Missouri-Kansas City School of Medicine, 2220 Holmes, Kansas City 64108. 816-276-1339.

9 **Computed Tomography of the Adrenal Glands** — City-Wide Radiology Conference. Location: Mallinckrodt Institute of Radiology. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 S. Kingshighway, St. Louis 63110. 314-362-7100.

19-20 **Advanced Trauma Life Support Provider Course** — Location: University of Kansas Medical Center. Contact: Mrs. Jody Scott, Dept. of Surgery, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-6124.

January

5-10 **Practical Management of Patients with Infectious Disease: A Case-Oriented Approach** — Location: Keystone, Colorado. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis 63110. 314-362-6893.

8-14 **Obstetrics & Gynecology: Practical Aspects in Patient Care** — Location: Maui, Hawaii. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis 63110. 314-362-6893.

10-12 **Pan American North American Course** — Location: Key Biscayne, Florida. Contact: Felix N. Sabates, M.D., Truman Medical Center, 2301 Holmes St., Kansas City 64108. 816-556-3501.

13 **City-Wide Radiology Conference** — Location: St. Louis University. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway, St. Louis 63110. 314-362-7100.

The continuing medical education accreditation program of the MSMA has full approval by the AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. Please remember to include the name of the individual who can be contacted at your institution for additional information about your CME events.

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Physician's Recognition Awards

Sixty MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the period of May-June 1985.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

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Boone

James O. Alyea, *Columbia*
George D. Amromin, *Columbia*
James E. Schneider, *Columbia*

Buchanan

Charles K. Goeking, *St. Joseph*
William H. Gondring, *St. Joseph*

Chariton-Macon-Monroe-Randolph

Kenneth M. Kays, *Moberly*
Thomas R. Turnbaugh, *Moberly*

Clay-Platte

Nicola Y. Katf, *North Kansas City*

Cole

Alan R. Doerhoff, *Jefferson City*
Derek D. Hughes, *Jefferson City*

Cooper

Bryon M. Stuart, *Boonville*

Dunklin

Wallace D. English, *Cardwell*

Franklin-Gasconade-Warren

Sunil M. Apte, *Washington*
James T. Shaw, *Hermann*

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Prabha Partap, *St. Louis*
Dogan H. Savci, *St. Louis*
John S. Schengber, *St. Louis*
Walter A. Schroeder, *St. Louis*
George H. Sobky, *Louisiana*

New Members

■ **Barbara J. Allphin, M.D.,** Childrens Mercy Hospital, 24th and Gillham Rd., Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Allphin received her preliminary education at the University of Missouri-Columbia and her medical degree at the University of Missouri-Kansas City in 1975. Dr. Allphin completed her residency at Childrens Mercy Hospital, Kansas City. She specializes in pediatrics.

■ **Gordon G. Berg, M.D.,** Department of Radiology, University of Missouri Hospital, Columbia 65212, has become a member of Boone County Medical Society. Dr. Berg received his preliminary education at Baker University and his medical degree at the University of Kansas in 1975. He completed his residency at the University of Missouri-Columbia. He specializes in diagnostic radiology.

■ **Grant A. Bever, M.D.,** 1800 E. Mechanic, Harrisonville 64701, has become a member of West Central Missouri Medical Society. Dr. Bever received his preliminary education at Brigham Young University and his medical degree at the University of Kansas in 1972. He completed his residency training at the Truman Medical Center, Kansas City. He specializes in obstetrics and gynecology.

■ **R. Morton Bolman, III, M.D.,** Suite 3108, Queeny Tower, Barnes Hospital Plaza, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Bolman received his preliminary education at Williams College and his medical degree at St. Louis University in 1973. He completed his residency training at Duke University, Department of Surgery, Durham, N.C. He specializes in thoracic surgery.

■ **Jerrell L. Borup, M.D.,** 1443 N. Robberson, Springfield 65804, has become a member of Greene County Medical Society. Dr. Borup received his preliminary education at Memphis State University and his medical degree at Universidad Autonoma de Guadalajara in 1978. He completed his residency training at the Naval Regional Medical Center, San Diego, Calif. He specializes in anesthesiology.

■ **Amy J. Byer, M.D.,** 2850 W. Clay, St. Charles 63301, has become a member of St. Charles-Lincoln County Medical Society. Dr. Byer received her preliminary education at the University of Maryland and her medical degree at the University of Maryland in 1978. She completed her residency training at the University of Tennessee, Knoxville. She specializes in obstetrics and gynecology.

■ **James B. Chapman, M.D.,** 25 Doctor's Park, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Chapman received his preliminary education at Indiana University and his medical degree at Indiana University in 1980. He completed his residency training at St. Vincents Hospital, Indianapolis, Ind. He specializes in cardiovascular diseases.

■ **Shirley A. Chow, M.D.,** 3124 Eaton, Kansas City, Ks. 66103, has become a member of Jackson County Medical Society. Dr. Chow received her preliminary education at Pittsburg State University and her medical degree at the University of Kansas in 1984. She is completing her residency training at the University of Missouri-Kansas City Affiliated Hospitals, Kansas City, Mo. She specializes in internal medicine.

■ **Robert E. Collier, M.D.,** 2800 Hospital Dr., North Kansas City, 64116, has become a member of Jackson County Medical Society. Dr. Collier received his preliminary education at Ohio State University and his medical degree at Ohio State University in 1973. He completed his residency at the Truman Medical Center, Kansas City. He specializes in emergency medicine.

■ **James M. Daily, M.D.,** 1443 N. Robberson, Suite 303, Springfield 65802, has become a member of Greene County Medical Society. Dr. Daily received his baccalaureate and his medical degree at the University of Missouri-Kansas City in 1972. He completed his residency training at the National Naval Medical Center, Bethesda, Md. He specializes in anesthesiology.

■ **Wenceslaus P. Dias, M.D.,** 1100 S. Springfield, Bolivar 65613, has become a member of Dallas-Hickory-Polk-Dade Medical Society. Dr. Dias received his preliminary education at University of Cambridge and his medical degree at Shivaja University in 1971. He completed his residency training at St. Joseph Hospital, Denver, Colo. He specializes in general surgery.

■ **Patrick H. Durbin, M.D.,** 5535 Delmar Blvd., St. Louis 63112, has become a member of St. Louis Metropolitan Medical Society. Dr. Durbin received his preliminary education at Southern Illinois University and his medical degree at the University of Santiago in 1984. He is completing his internship at St. Luke's Hospital, St. Louis. He specializes in internal medicine.

■ **Joseph P. Eker, M.D.,** Occupational Health Services, 2316 Kenwood, Suite 457, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Eker received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1980. He completed his residency training at Johns Hopkins University, Baltimore. He specializes in general preventive medicine.

■ **Edward R. Etzkorn, M.D.,** 4900 Swope Parkway, Kansas City 64130, has become a member of Jackson County Medical Society. Dr. Etzkorn received his preliminary education at Catholic College of America and his medical degree at Georgetown University in 1980. He completed his residency training at District of Columbia General Hospital, Washington, D.C. He specializes in internal medicine.

■ **Andrew L. Evans, M.D.,** 1443 N. Robberson, Springfield 65802, has become a member of Greene County Medical Society. Dr. Evans received his preliminary education at Drury College and his medical degree at the University of Washington in 1981. He completed his residency training at Baylor College Affiliated Hospitals, Waco, Texas. He specializes in internal medicine.

■ **Michael R. Freeman, M.D.,** Rt. 2, Box 305A, Jackson 63755, has become a member of Cape Girardeau County Area Medical Society. Dr. Freeman received his preliminary education at the University of Tennessee and his medical degree at the University of Tennessee in 1977. He completed his residency training at University Affiliated Hospital, Memphis, Tenn. He specializes in internal medicine.

■ **Chris J. Haas, M.D.,** 7900 Lee's Summit Rd., Kansas City 64139, has become a member of Jackson County Medical Society. Dr. Haas received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1979. He completed his residency training at the Truman Medical Center, Kansas City. He specializes in emergency medicine.

■ **Mitchell S. Hamburg, M.D.,** 4400 Broadway, Suite 316, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Hamburg received his preliminary education at Northwestern University and his medical degree at the University of Kansas in 1979. He completed his residency training at Northwestern University Medical Center, Evanston, Ill. He specializes in internal medicine.

■ **Phil W. Harrison, M.D.,** 3402 McIntosh Circle Dr., Joplin 64801, has become a member of Jasper County Medical Society. Dr. Harrison received his preliminary education at the University of Arkansas and his medical degree at the University of Missouri-Columbia in 1977. He completed his residency training at the University of Missouri-Columbia. He specializes in internal medicine, gastroenterology and liver diseases.

■ **Alexander R. Hover, M.D.,** 1211 S. Glenstone, Springfield 65804, has become a member of Greene County Medical Society. Dr. Hover received his preliminary education at Southwest Missouri State University and his medical degree at St. Louis University in 1976. He completed his residency training at Wilford Hall USAF Medical Center, Lackland, AFB, Texas. He specializes in gastroenterology.

■ **Rick Hummel, M.D.,** 615 S. New Ballas Rd., St. Louis 63122, has become a member of St. Louis Metropolitan Medical Society. Dr. Hummel received his preliminary education at the University of Missouri-Columbia and his medical degree at St. Louis University in 1982. He completed his residency training at St. John's Mercy Medical Center, St. Louis. He specializes in internal medicine.

■ **Mary Anne Jackson, M.D.,** Children's Mercy Hospital, 24th at Gillham Rd., Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Jackson received her baccalaureate and medical degree at the University of Missouri-Kansas City in 1978. She completed her residency training at Childrens Hospital Medical Center, Cincinnati, Ohio. She specializes in pediatrics.

■ **Kathleen M. James, M.D.,** 2 Westbury, St. Charles 63301, has become a member of St. Charles-Lincoln County Medical Society. Dr. James received her preliminary education at the University of Texas and her medical degree at the University of Texas in 1977. She completed her residency training at Jewish Hospital, St. Louis. She specializes in general surgery.

■ **Patricia E. Jones, M.D.,** Prime Health Stadium Center, 9150 E. 41st Terrace, Kansas City 64133, has become a member of Jackson County Medical Society. Dr. Jones received her baccalaureate and medical degree at the University of Missouri-Kansas City in 1980. She completed her residency training at the Children's Mercy Hospital, Kansas City. She specializes in pediatrics.

■ **Martin Kanne, M.D.,** 8630 North Oak Trafficway, Kansas City 64155, has become a member of Clay-Platte County Medical Society. Dr. Kanne received his preliminary education at Northwest Missouri State University and his medical degree at the University of Missouri-Columbia in 1981. He completed his residency training at the Mayo Clinic, Rochester, Minn. He specializes in family practice.

■ **Robert S. Kensel, M.D.,** 1423 N. Jefferson, Springfield 65802, has become a member of Greene County Medical Society. Dr. Kensel received his preliminary education at the University of Arkansas and his medical degree at the University of Arkansas in 1979. He completed his residency training at Charity Hospital, New Orleans, La. He specializes in emergency medicine.

■ **Dennis D. Kenyon, M.D.,** Cox Medical Center, 1423 N. Jefferson, Springfield 65802, has become a member of Greene County Medical Society. Dr. Kenyon received his preliminary education at Southern Illinois University and his medical degree at Northwestern University in 1979. He completed his internship at Ochsner Medical Foundation Hospital, New Orleans, La. He specializes in emergency medicine.

■ **William J. Ketcherside, M.D.,** 2929 Baltimore, Suite 425, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Ketcherside received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Chicago in 1979. He completed his residency training at the University of Kansas Medical Center, Kansas City. He specializes in neurosurgery.

■ **Benjamin A. Lampert, M.D.,** 100 Professional Building, 609 Cherry, Springfield 65806, has become a member of Greene County Medical Society. Dr. Lampert received his preliminary education at the University of Alabama and his medical degree at the University of Alabama in 1980. He completed his residency training at University of Alabama Hospitals, Birmingham, Ala. He specializes in anesthesiology.

■ **Mark A. Ludwig, M.D.,** 1000 Carondelet Dr., Kansas City 64114, has become a member of Jackson County Medical Society. Dr. Ludwig received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1976. He completed his residency training at North Kansas City Memorial Hospital, Kansas City. He specializes in emergency medicine.

■ **Joseph W. Mayo, M.D.,** Department of Child Health, University of Missouri Medical Center, Columbia 65212, has become a member of Boone County Medical Society. Dr.Mayo received his preliminary education at Michigan State University and his medical degree at Case Western Reserve University in 1976. He completed his residency training at the University of Missouri-Columbia. He specializes in pediatrics.

■ **Lee G. Meyers, M.D.,** Department of Child Health, 1 Hospital Dr., University of Missouri Medical Center, Columbia 65212, has become a member of Boone County Medical Society. Dr. Meyers received his preliminary education at the University of Tennessee and his medical degree from the University of Missouri-Columbia in 1976. He completed his residency training at the University of Missouri-Columbia. He specializes in pediatrics.

■ **Ruth E. Millett, M.D.,** Menorah Medical Center, 4949 Rockhill Rd., Kansas City 64110, has become a member of Jackson County Medical Society. Dr. Millett received her preliminary education at Park College and her medical degree at the University of Kansas in 1972. She completed her residency training at the University of Kansas, Kansas City, Kan. She specializes in pathology.

■ **Carlos M. Monzon, M.D.,** University of Missouri Health Sciences Center, Columbia 65212, has become a member of Boone County Medical Society. Dr. Monzon received his preliminary education at the University of San Carlos and his medical degree at the University of San Carlos in 1976. He completed his residency training at the University of Missouri Health Sciences Center, Columbia. He specializes in pediatrics.

■ **Mary F. Mora, M.D.,** 4400 Broadway, Suite 206, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Mora received her preliminary education at the University of Notre Dame and her medical degree at the University of Kansas in 1980. She completed her residency training at Michigan State Affiliated Hospitals, Lansing, Mich. She specializes in pediatrics.

■ **Michael L. Munger, M.D.,** 6601 Rockhill Rd., Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Munger received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1983. He is completing his residency training at Baptist Medical Center, Kansas City. He specializes in family practice.

■ **Anthony P. Pecoraro, M.D.,** 4400 Broadway, Suite 206, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Pecoraro received his preliminary education at the University of Rochester and his medical degree at the University of Missouri-Columbia in 1968. He completed his residency training at the University of Kansas, Kansas City. He specializes in pediatrics.

■ **Michaele M. Penkoske, M.D.,** 1301 Boonslick Rd., St. Charles 63301, has become a member of St. Charles-Lincoln County Medical Society. Dr. Penkoske received her preliminary education at the University of Missouri-Columbia and her medical degree at the University of Missouri-Columbia in 1977. She completed her residency training at Jewish Hospital, St. Louis. She specializes in internal medicine.

■ **John C. Perryman, M.D.,** 4400 Broadway, Suite 316, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Perryman received his preliminary education at Yale University and his medical degree at Kansas University in 1976. He completed his residency training at St. Luke's Hospital, Kansas City. He specializes in internal medicine.

■ **James D. Ramsey, M.D.,** 60 Doctor's Park, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Ramsey received his preliminary education at the University of Mississippi and his medical degree at the University of Mississippi in 1975. He completed his residency training at Charlotte Memorial Hospital, Charlotte, N.C. He specializes in thoracic and cardiovascular surgery.

■ **Jeffrey F. Schaffer, M.D.,** 800 Hospital Dr., Columbia 65212, has become a member of Boone County Medical Society. Dr. Schaffer received his preliminary education at the University of Iowa and his medical degree at the University of Iowa in 1977. He completed his residency training at the University of Missouri-Columbia. He specializes in diagnostic radiology.

■ **Lewis D. Shuler, D.O.,** McClelland Building, Suite 210, 2817 McClelland Blvd., Joplin 64801, has become a member of Jasper County Medical Society. Dr. Shuler received his preliminary education at the University of Texas and his osteopathic degree at Kirksville College of osteopathic medicine in 1975. He completed his residency training at Naval Hospital, Bethesda, Md. He specializes in cardiovascular diseases.

■ **James J. Sowash, M.D.,** Boone Clinic, 401 Keene St., Columbia 65201, has become a member of Boone County Medical Society. Dr. Sowach received his preliminary education at Cardinal Glennon College and his medical degree at the University of Missouri-Columbia in 1977. He completed his residency training at the University of Missouri-Columbia. He specializes in obstetrics and gynecology.

■ **John G. Waite, M.D.,** 77 Westport Plaza, Suite 368, Creve Coeur 63146, has become a member of St. Louis Metropolitan Medical Society. Dr. Waite received his preliminary education at Kings College and his medical degree at Kings College in 1967. He completed his residency training at Kings College Hospital, London, England. He specializes in psychiatry and psychotherapy.

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Richard Jeffrey Conner
Todd Robert Cote
Allan J. Fisher
Robert Friedman
Brian P. Hackett
Trudy Ann Mikhail
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Michael Anthony Zona

University of Missouri-Kansas City

Walter D. Bernard
Karen K. Driskell
Cassing Hammond
Cynthia Hegg
Blake Little
Stephanie Ann Miller
Brad Moseley

In Memoriam

■ **Charles H. Leslie, M.D.,** 1065 Haversham Place, St. Louis 63131; graduate of University of Missouri, 1927; member of St. Louis Metropolitan Medical Society; age 81, died June 18, 1985.

■ **Roy H. Schmiemeier, M.D.,** 7351 Windcrest Dr., House Springs 63051; graduate of St. Louis University, 1942; member of St. Louis Metropolitan Medical Society; age 67; died May 13, 1985.

■ **Charles W. Stelle, M.D.,** 9540 Mission Road, Shawnee Mission, KS 66206; graduate of the University of Kansas, 1927; member of Jackson County Medical Society; age 83; died May 30, 1985.

■ **Hanford Phillips, M.D.,** 13590 S. Outer 40 Road, Suite 156, Chesterfield 63017; graduate of St. Louis University, 1925; member of St. Louis Metropolitan Medical Society; age 84; died July 28, 1985.

Information for Contributors

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Reprints

Reprint order blanks will accompany proof, which will be sent to authors prior to publication.

Editorials

Editorials should be written in clear, concise language. Length should be about two or three pages typed with double spacing.

Letters

Letters will be published at the discretion of the editor, managing editor, and Editorial Board.

Deadline

All material other than scientific should be received prior to the first of the month preceding month of publication.

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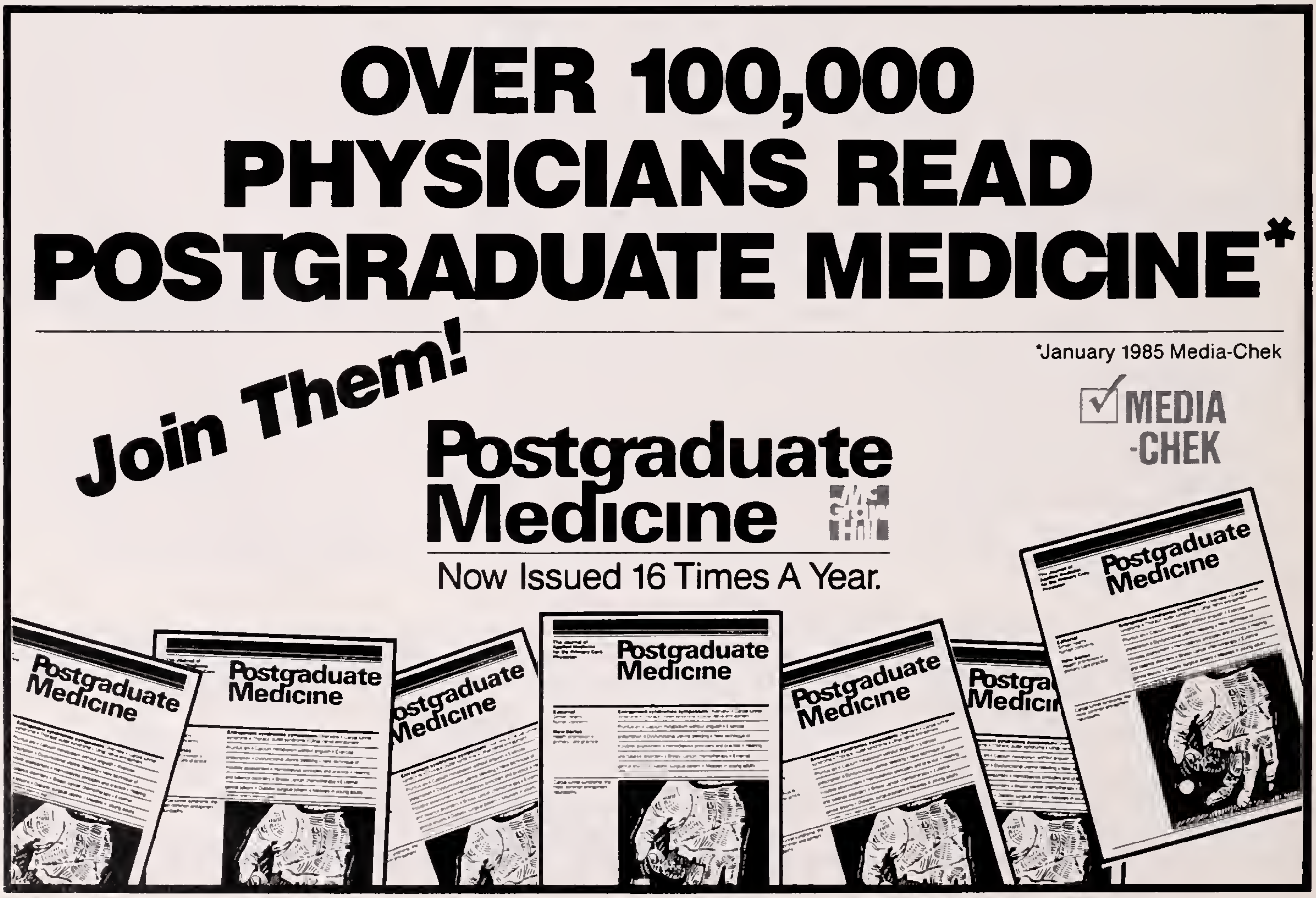
NIH Conference — on Health Implications of Smokeless Tobacco Use. Jan. 13-15, 1986. Bethesda, Maryland. For more information, contact Barbara McChesney, Prospect Associates, Suite 401, 2115 East Jefferson St., Rockville, MD 20852. 301-468-6555.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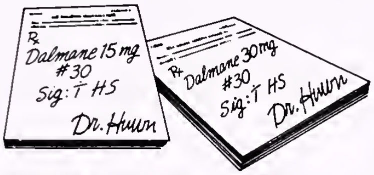

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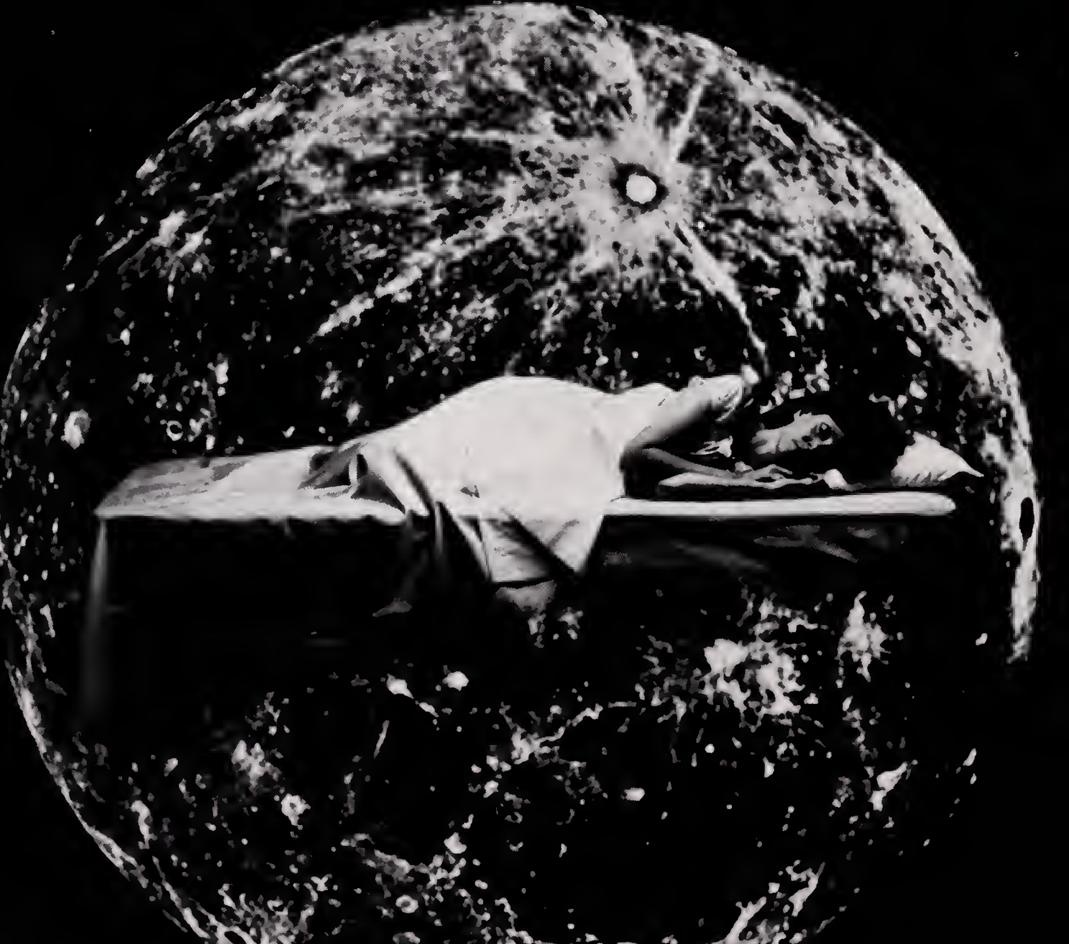

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Missouri Medicine

Journal of the Missouri State Medical Association October 1985

v.82, no.10

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Who Cares What *You* Think?

We do.

The Editorial Board of *Missouri Medicine* is interested in making the Journal more responsive to your interests and needs. Speak up! Let us know what you think about the departments in the Journal. What do you think of the new format? What's good? What's bad? What kind of information and articles do you want to see in future issues? Get it off your chest — and put it down in writing! Do it today!

I. Scientific Articles

	Poor	Below Average	Average	Above Average	Excellent
How do you rate the majority of the scientific articles published in the Journal?	☐	☐	☐	☐	☐

Comments:

II. Departments

How do you rate the value of the following departments?

	Poor	Below Average	Average	Above Average	Excellent
A. Progress Notes	☐	☐	☐	☐	☐
B. President's Page	☐	☐	☐	☐	☐
C. Editor's Desk	☐	☐	☐	☐	☐
D. Letters to the Editor	☐	☐	☐	☐	☐
E. Auxiliary Message	☐	☐	☐	☐	☐
F. Continuing Medical Education	☐	☐	☐	☐	☐
G. Physicians Recognition Awards	☐	☐	☐	☐	☐
H. New Members	☐	☐	☐	☐	☐
I. In Memoriam	☐	☐	☐	☐	☐
J. Medical School News	☐	☐	☐	☐	☐
K. Classifieds	☐	☐	☐	☐	☐

Comments:

III. Format

How do you rate the new format of *Missouri Medicine*?

	Poor	Below Average	Average	Above Average	Excellent
A. Overall Design	☐	☐	☐	☐	☐
B. Cover	☐	☐	☐	☐	☐
C. Departments	☐	☐	☐	☐	☐
D. Scientific	☐	☐	☐	☐	☐
E. Other ____________________	☐	☐	☐	☐	☐

Comments

IV.

	Poor	Below Average	Average	Above Average	Excellent
IV. We have been publishing several articles on PRO this year. How would you rate their usefulness/benefit to you?	☐	☐	☐	☐	☐

What other types of non-scientific articles would you like to see in future issues?

	Poor	Below Average	Average	Above Average	Excellent
V. Each year, the July issue features highlights and proceedings of the MSMA Annual Convention. In general, how do you rate this special issue?	☐	☐	☐	☐	☐
VI. Each year, the August issue is a membership directory. How do you rate this issue's usefulness to you?	☐	☐	☐	☐	☐
Comments:					
VII. There is some ongoing discussion about the feasibility of a midwest regional journal. This would mean that we would cease publishing *Missouri Medicine* and in its stead have a regional publication with other states such as Kansas, Arkansas and Oklahoma. How would you rate this idea?	☐	☐	☐	☐	☐
VIII. How would you rate the value of each of the following *potential* new departments for the Journal?					
A. X-ray of the Month	☐	☐	☐	☐	☐
B. EKG of the Month	☐	☐	☐	☐	☐
C. CPC of the Month	☐	☐	☐	☐	☐

IX. **General Comments**

What ideas or suggestions do you have to make the Journal more useful to you?

X. **Demographic Information**

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Missouri Medicine (ISSN 0026-6620) is published monthly by the Missouri State Medical Association, P.O. Box 1028, 113 Madison St., Jefferson City, MO 65102.

Subscription rates: $15 per year. Interns and Residents, $7.50 per year.

Second class postage paid at Jefferson City, Missouri and at additional mailing offices.

Postmaster: Send address changes to Missouri State Medical Association, c/o Membership Department, P.O. Box 1028, Jefferson City, MO 65102.

The articles published in *Missouri Medicine* represent the opinions of the authors, and do not necessarily reflect the official policy of the Missouri State Medical Association.

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Cover

"Mission by the Sea," by John William Fries, M.D. Dr. Fries is chief radiologist at St. Anthony's Medical Center, St. Louis, and associate clinical professor of radiology at St. Louis University School of Medicine.

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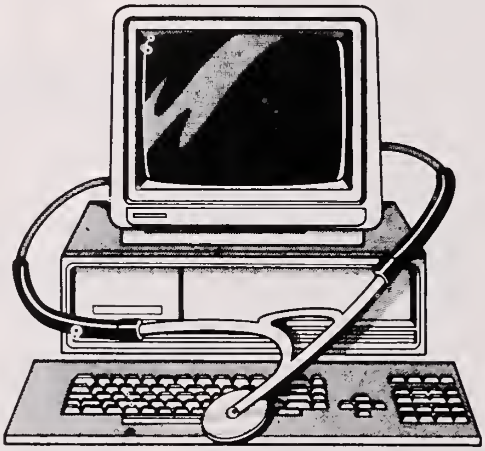

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MSMA Progress Notes

Council adopts positive action plan to pass tort reform

The Missouri State Medical Association Council has unanimously adopted an action plan designed to push for passage of tort reform legislation during the 1986 General Session of the Missouri legislature.

It was emphasized at the Council meeting that the entire MSMA membership must become involved if medicine is to be successful in passing tort reform. Association efforts in this area kicked off with meetings held in conjunction with the Missouri Hospital Association and the Missouri Association of Osteopathic Physicians and Surgeons in the various state senatorial districts. Area legislators and "Key Contact" physicians in each area have been invited to receptions and dinners, followed by short presentations on the malpractice crisis.

The Association is also participating in meetings with the Missouri Association of Trial Attorneys and preparing testimony and identifying expert witnesses for the Senate Select Committee on Malpractice, which is meeting around the state.

Additionally, the MSMA is preparing to kick off its Physician Action Team (PAT) program which is designed to insure contact between local MSMA members and each Missouri senator and representative.

The Council also appropriated $18,000 for consulting work for a second, "back up" plan for gaining passage of tort reform. The second plan calls for the MSMA, in a joint effort with the Missouri Hospital Association and the Missouri Association of Osteopathic Physicians and Surgeons, to consider the initiative process to put the tort reform issue before the voters on the November 1986 ballot.

The initial cost of laying groundwork for an initiative drive would be $60,000. If the General Assembly fails to pass tort reform during the legislative session, the initiative plan could be set into motion. It is estimated that achieving tort reform through the initiative process would cost $4 million to $5 million, of which MSMA's share would be approximately $1.4 million. However, the MSMA House of Delegates would be the final decision-maker on whether to proceed with the initiative plan due to the large fiscal commitment.

Currently, the State Board of Registration for the Healing Arts is discussing two measures to present to the Senate Select Committee on Medical Malpractice and Product Liability. The first measure would empower the Board to temporarily suspend a physician's license if it is felt that the physician is endangering himself/herself or a patient. The second measure would be a mandatory reporting bill which would require hospitals, medical societies, etc., to report any disciplinary action taken against a physician.

MSMA studies possibility of its own IPA/HMO

In other actions, the Council recommended the MSMA continue investigating the feasibility of establishing a physician-owned, physician-sponsored IPA/HMO.

New benefits for members

Medical Economics Group Associates, Inc., (MEGA), was approved by the Council as a membership benefit for MSMA members to purchase needed equipment and supplies at price discounts while generating additional income for the Association. Under this plan, MSMA members can become a member of MEGA for $300 and through the use of this service can save 17-25% on most office equipment and supply purchases.

President asks for dues increase

Walter A. German, M.D., MSMA president, asked the MSMA Council to consider a dues increase, the amount to be decided by the Council. He urged that this issue be deliberated and decided as soon as possible in order to allow it to be presented to the 1986 MSMA House of Delegates for a final vote.

Changes proposed for PRO program

Dr. Kenneth Rall, Columbia, called the Council's attention to a three-page document spelling out several radical changes that are being proposed to the PRO scope of work document. These include: 1) requiring 100% preadmission review of all Medicare admissions; 2) expanding HCFA's use of the small area analysis; 3) requiring outpatient review be done to determine the appropriateness of the procedure and of the setting in which services should be delivered; 4) completely eliminating cost outlier function; 5) eliminating the Code Editor function; 6) requiring that either a single sample for admission, quality and DRG validation of 7.5% be used or that 5% of the random sample be used, plus 50% sample of all one, two, or three-day stays in the hospital; 7) abolishing the waiver of liability; 8) requiring the hospital medical record number and the preadmission certification number be included on form UB 82; 9) abolishing the quality objectives as they currently exist; and 10) requiring HMO reviews by a subcommittee of the Board consisting of HMO physicians who will oversee the review functions.

Dr. E. T. Hansbrough, Poplar Bluff, reported that physicians in the hospital he is associated with agreed to 100% review by the PRO. In one week, 19 of the 432 cases reviewed were denied. Dr. Hansbrough suggested that the MSMA withdraw its support and end its involvement with the PRO. The program, he said, is entirely a cost containment program and when the decision was made to reduce admissions by 10%, physicians should have realized that this was going to create great problems.

In other actions, the Council:

- approved a "creative real estate transaction" for the south building next door to the MSMA which the Association purchased last year.
- approved a recommendation by the MSMA Commission on Medical Economics, Third Party Medicine and Governmental Relations, urging MSMA members to oppose the imposition of DRGs and fixed fee schedules on Missouri physicians.
- authorized the Committee on the Impaired Physician to search for a parttime director with a salary range of $35,000-$40,000.
- approved MSMA support for 1) Dr. George Bohigian for re-election to the AMA Council on Scientific Affairs; 2) Dr. Hugh E. Stephenson, Jr., to the AMA Council on Medical Education and 3) Dr. Hugh Ritter as AMA president-elect.
- approved recommendations from the Commission on Public Affairs to 1) disseminate information on the professional liability issue; 2) establish a "Key Contact" program between physicians and their local media; and 3) produce a brochure about office waiting time.
- approved "Establishing Yourself in Medical Practice" workshops for May 5-6, 1986, in Kansas City and May 7-8, 1986, in St. Louis.
- approved a motion by Dr. Alan Braun, Jefferson City, that the Council write to University of Missouri President Peter MacGrath and the chairman of the Board of Curators a letter in support of Dr. William Bradshaw as dean of the UMC School of Medicine.
- approved a motion by the Jackson County councilors that the final actions of the State Board of Registration for the Healing Arts be published in *Missouri Medicine.* ■

CME activities no longer recorded by medical association

The Missouri State Medical Association has discontinued its policy of recording members' CME activities and credits.

Since 1976, the Missouri State Medical Association has been recording member physicians' continuing medical education activities. Members were provided with an annual printout summarizing all repoprted CME activities. Missouri was the only state in the nation providing this service to its members. However, due to increasing costs and the fact that the service was being duplicated by medical specialty organizations, the MSMA Council, on the recommendation of the Commission on Continuing Education and Health Manpower, voted to eliminate the service.

Physicians are advised to maintain their own CME records. ■

Physicians asked to aid in the fight to pass tort reform

A three-pronged approach has been developed to aid in the MSMA's battle to pass tort reform legislation during the 1986 General Session of the Missouri legislature. The plan developed calls for action by 1) the MSMA; 2) component medical societies; and 3) Physician Action Teams (PATs).

A coordinated effort by physicians throughout the state is needed if legislation is to be enacted to address the medical malpractice insurance crisis. As physicians are all too aware, the skyrocketing insurance premiums charged physicians are driving up the cost of care for patients and, in some instances, limiting the medical services available to patients.

Along with other efforts, the Missouri State Medical Association is working to establish a network of PATs to interact with legislators, the media and the public. These PATs will be responsible for disseminating medicine's message on the malpractice insurance crisis. Other responsibilities of PATs will include: meeting with assigned legislators; meeting with local media; speaking before local civic groups; keeping other interested physicians in the area informed; and reporting back to the MSMA results of meetings with legislators, media and the public.

Component medical societies are also being asked to become involved in the drive to pass tort reform measures. Non-staffed societies will be asked to identify volunteers for PATs to work with each state legislator in the area. Staffed societies, with the exceptions of St. Louis and Jackson counties, will be asked to assist in gaining volunteers for PATs. The St. Louis Metropolitan Medical Society and the Jackson

County Medical Society will be asked to share their hospital staff information and assist in gaining volunteers for hospital staff PATs.

The Missouri State Medical Association will be sending a mailing in the near future to the full membership explaining the MSMA's plan of action and also outlining suggested solutions made by PATs. The MSMA will be responsible for securing PATs to cover each legislator and for preparing and distributing information to each PAT.

Sample news releases and speeches with suggestions about how to get media coverage will be prepared by the MSMA and sent to each PAT. PATs will also be advised of all changes in the provisions of the tort reform package and of any changes in strategy by the MSMA. The Association will be establishing an "instant response" mechanism with PATs for quick contact with legislators. The MSMA will also be working with other interested groups such as the Missouri Hospital Association and the Missouri Association of Osteopathic Physicians and Surgeons.

The Association is also prepared to arrange, if necessary, a physician rally on the steps of the Missouri Capitol in early spring to demonstrate the crisis stage of this problem.

For several months now, the MSMA has been working with the Senate Interim Committee on Malpractice and Product Liability. To date, this committee has held five hearings throughout the state to hear testimony on the issue of malpractice and product liability. Three more hearings are scheduled for later this month: Monday, Oct. 21, 7-10 p.m., Popular Bluff; Tuesday, Oct. 22, 3-5 p.m., St. Louis City; and Tuesday, Oct. 22, 7-9 p.m., St. Louis County.

In addition, the MSMA is co-hosting a series of more than 20 legislative dinners across the state. The dinners are a conjoint effort with the Missouri Hospital Association and the Missouri Association of Osteopathic Physicians and Surgeons. In additions to legislators, guests at each dinner, arranged on a state senatorial basis, include hospital board members, administrators and physicians. The agenda for the dinners include a slide-tape show and a discussion of the malpractice situation.

If you are interestd in becoming involved in this effort to pass tort reform legislation in Missouri, please contact your local medical society or C. C. Swarens, Executive Director, MSMA, P.O. Box 1028, Jefferson City, MO 65102. ■

Denial rates for Missouri MDs are higher than the national average

For the period ending April 1985, Missouri's denial rates for preadmission and admission reviews were 2.9% and 3.0% respectively, compared to a national average of 1.4% and 2.48% respectively. HCFA review summaries provided these figures to the Missouri Patient Care Review Foundation (MPCRF) at its August board meeting.

The MPCRF board also reviewed the MPCRF budget report for the 12-month period ending July 31, 1985. As of that date, the MPCRF had expended $4.1 million (46%) of the $9 million budget for its two-year contract with HCFA.

The number of days a physician has to respond to a pending denial notice (before it becomes a final denial) was reduced from 15 to seven days by the board. Responses postmarked on or before the seventh day will be accepted. If a physician feels he/she will be unable to submit the information by the seventh day and needs another day or two, he/she should call the appropriate regional office regarding the intent to submit the additional information, and the case will be held until the information is received, provided it is submitted in a timely fashion.

A new booklet, "Missouri Patient Care Review Foundation Manual for Preadmission Certification and Review Criteria of Specific Procedures," is being distributed by MPCRF. The booklet contains the list of the 15 procedures which currently require preadmission certification and the criteria employed, as well as the screening criteria used by the regional review coordinators when retrospectively reviewing admissions for certain specific procedures. Copies of the booklet are available by writing the Missouri Patient Care Review Foundation, 1026 C Northeast Drive, Jefferson City, MO 65101, or calling 314-634-4441. A nominal charge will be made to cover the cost of printing. ■

Participation rate in Medicare 37% for first year

The Medicare participation rate for non-federal patient care physicians was 37.2% during the first year of the participating physician program, according to the AMA Center for Health Policy Research. The program, which was created by the Deficit Reduction Act of 1984, offered incentives to physicians who agreed to accept assignment for all Medicare services.

In a study of 476 MD care physicians, excluding residents, the center found that physicians were "extremely cautious" last year in making the decision about whether to participate. For the most part, they based their decision on their previous assignment history. Participation was more likely for physicians who had previously assigned a larger percentage of patients or whose usual fees were relatively close to the Medicare prevailing fee. ■

Drugs added to Schedule I of controlled substances

The Division of Health, Bureau of Narcotics and Dangerous Drugs, published an amendment to 13 CSR 50-130.010, Controlled Substances Schedules. The amendment will add 3, 4-methylenedioxymethamphetamine (MDMA) to Schedule I of the list of controlled substances. The amendment is in keeping with the federal list and was effective August 26, 1985. ■

Kansas City residents first to view AMA's new commercials

Last month, Kansas City area television viewers and radio listeners were subjects in the AMA's test of the effectiveness of their new commercial and "infomercial," designed to convey to the public the medical profession's viewpoint on the professional liability crisis.

Both Kansas City and Des Moines were chosen as test sites for nine days in September. The pilot test was part of a five-point public awareness program to enhance the public image of physicians. As its December Interim Meeting, the AMA House of Delegates called for a series of pilot programs to inform the public of changes in the medical care delivery system and to increase the public's awareness that physicians are their patients' best advocates.

The AMA Survey and Opinion Research staff supervised telephone interviews with randomly selected individuals to determine whether they saw the television messages and to assess how much information they retained. Copies of the commercial and infomercial, as well as an analysis of the ratings they received, will be available for state and county medical societies to use in their local public awareness programs. For more information, write to Wendy Borow, director, AMA Department of Radio/Television and Motion Picture Services, AMA headquarters, Chicago 60610. 312-645-4420. ■

Interim committees selected to study medical issues

Several legislative interim committees have been called to study medical-related issues during the six-month break between legislative sessions.

Serving on the Senate Committee on Medical Malpractice and Product Liability are the following senators:

J. Mathewson	*Sedalia*
H. L. Caskey	*Butler*
Norman Merrell	*Monticello*
Stephen Sharp	*Kennett*
Robert Johnson	*Lee's Summit*
Emory Melton	*Cassville*
James Strong	*Jefferson City*

The Senate Committee on Health Problems of the Elderly consists of the following senators:

Wayne Goode	*Normandy*
J. B. Banks	*St. Louis*
Edward Quick	*Kansas City*
Truman Wilson	*St. Joseph*
Robert Johnson	*Lee's Summit*
Fred Dyer	*St. Charles*
John T. Russell	*Lebanon*

The House has selected 10 of its members to serve on a House Interim Committee on Critical Decisions. Members of the committee are:

Jerry Burch	*Walker*
Sheila Lumpe	*University City*
Joe Driskill	*Doniphan*
G. Hoblitzelle	*St. Louis*
Bob Holden	*Springfield*
Derek Holland	*Lee's Summit*
Ken Jacob	*Columbia*
Gene Lang	*Warrensburg*
Lester Peterson	*Lee's Summit*
Mark Youngdahl	*St. Joseph*

A House interim committee on Alzheimer's Disease consists of:

Carole Park	*Sugar Creek*
Bob Ward	*Desloge*
J. O'Connor	*Bridgeton*
Sue Shear	*Clayton*
Betty Hearnes	*Charleston*
Bonnie Cooper	*Kansas City*
Todd Smith	*Sedalia*

For more information on any of these committees, contact the MSMA, P.O. Box 1028, Jefferson City, MO 65102. 314-636-5151. ■

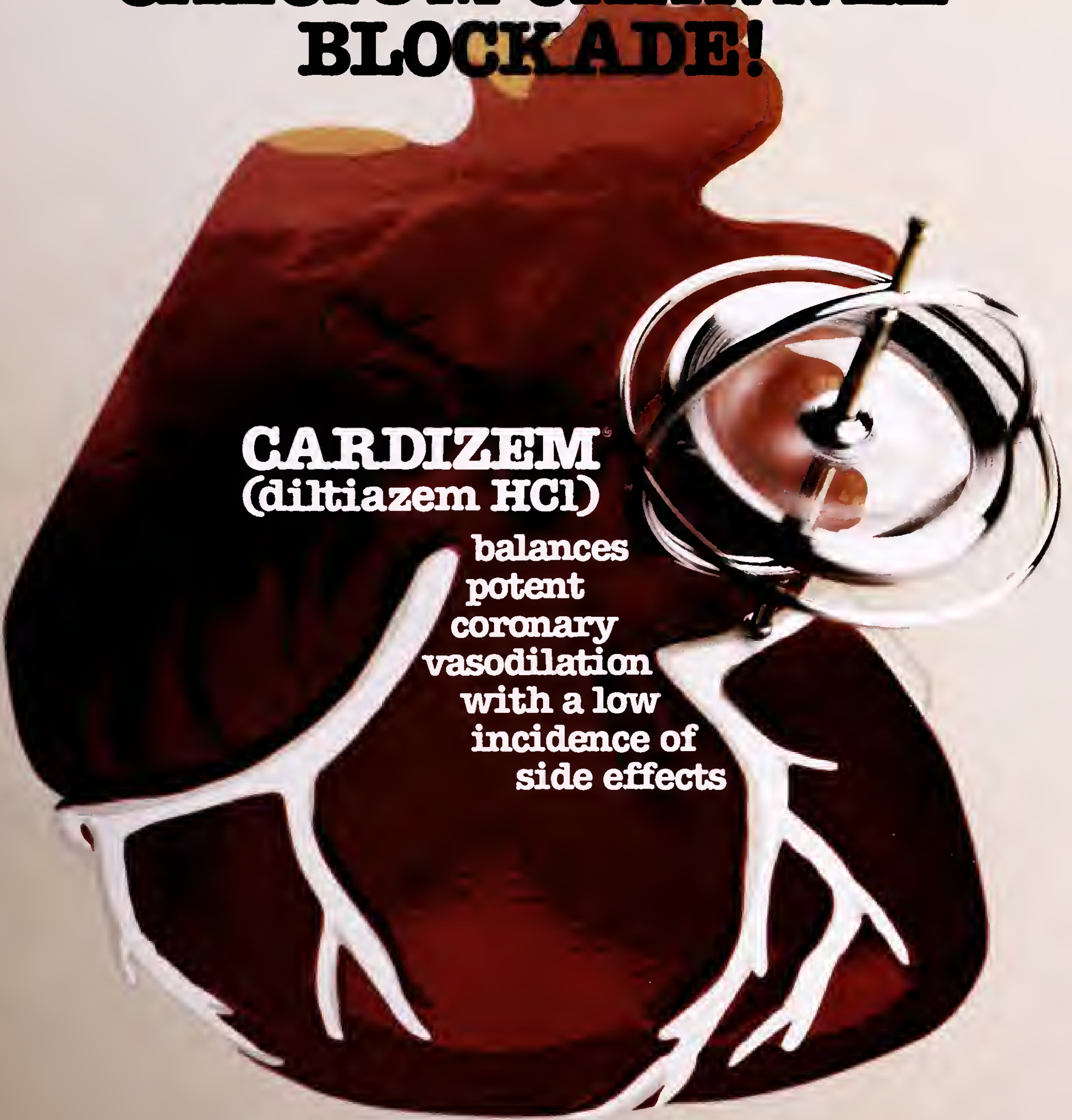
Dept. of Health establishes program for diabetic mothers

An estimated 400 infants are born each year to Missouri women who have been diagnosed to have diabetes prior to their pregnancy. Serious clinical problems associated with diabetes and pregnancy lend to a resultant risk imposed on both mother and infant and is an obvious public health concern. Accordingly, the Missouri Department of Health is providing a counseling service to the diabetic woman who is contemplating pregnancy.

The Department of Health provides this service at no cost for all women with diabetes who are of childbearing age. The purpose is to impact information on the effects of diabetes on pregnancy; the alterations in diabetes control caused by pregnancy; the role of diabetes control during pregnancy and how that control can be maintained; the importance of contraception until proper diabetes control is achieved; and the importance of receiving proper medical care before and during pregnancy.

Referrals and further information concerning pregnancy counseling may be obtained by contacting the Missouri Department of Health, Bureau of Chronic Diseases, 1-800-392-6226. ■

BALANCED CALCIUM CHANNEL BLOCKADE!


CARDIZEM®
(diltiazem HCl)
balances potent coronary vasodilation with a low incidence of side effects

Low incidence of side effects
CARDIZEM® (diltiazem HCl) produces an incidence of adverse reactions not greater than that reported with placebo therapy, thus contributing to the patient's sense of well-being.

*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

References:

1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

Reduces angina attack frequency*
42% to 46% decrease reported in multicenter study.[1]

Increases exercise tolerance*
In Bruce exercise test,[2] control patients averaged 8.0 minutes to onset of pain; Cardizem patients averaged 9.8 minutes ($P<.005$).

CARDIZEM®
(diltiazem HCl)

THE BALANCED
CALCIUM CHANNEL BLOCKER

Please see full prescribing information on following page.

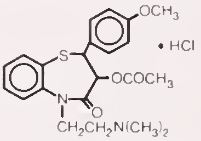
2/84

PROFESSIONAL USE INFORMATION

cardizem®
(diltiazem HCl)
30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy) -5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+) -cis- The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect, cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established The most common occurrences, as well as their frequency of presentation, are. edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity
Other:	Polyuria, nocturia

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy**—CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

Issued 4/1/84

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

The diversity of subjects presented indicates the protean nature of a modern teaching hospital.

UMC special issue offers a look inside

It's the fashion now-a-days to look back on our "roots." It is interesting at times to think back to our professional roots — our medical schools — and consider the role they play in the grand scheme of things. (Of course, they often remind us of their existence by requests for alumni donations.) Return visits to the institutions where we made our first mistakes usually reveal how much the physical plants are changing and growing. The curricula of these schools evolve, too. There is now a greater emphasis on family practice training, especially important as the gatekeeper modality of medical delivery becomes predominant.

Teaching hospitals are a big part of the medical scene in this state. About 800 physicians are involved in teaching, administration, research and other allied roles in our medical schools. Missouri's four medical schools have some 2,000 students. It is the research facet, however, which is least visible. The economic health of these institutions has been the subject of much speculation as to whether they, like the dinosaurs, might become extinct because of their unwieldy large size. But, thanks probably in part to economic factors such as better ability to adapt to Medicare, Medicaid and other controlled pay conditions, they appear to be enduring change, if not actually thriving on it. Many medical schools across the nation have responded to the anticipated physician surplus by reducing enrollment, but for reasons laced with politics, this has not yet happened here in Missouri.

This issue of *Missouri Medicine* features articles stemming from the University of Missouri-Columbia Health Sciences Center, more commonly known as the UMC Med Center. The diversity of subjects presented indicates the protean nature of a modern teaching hospital. Right up front for many physicians are medicolegal problems; some of the do's and don'ts of testifying in court are herein recorded. The overlooked mental health center is the setting for a discussion of commonly seen personality disorders. More unusual medical and surgical problems gravitate to the ivory towers; nuclear medicine tests and the CT scan are part of the diagnostic arsenal used in thyroid and abdominal case reports in these pages. Probably more important, however, is the research aspect of our schools. Workable medical knowledge of today has its roots in meticulous, time-consuming basic research. This does not happen only at big-name medical institutions on one of the coasts; some of it is going on here in Missouri. With this thought in mind, a report on an elementary study involving the aging process is presented. From such as this will come the clinical tools of tomorrow. ■

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PRESIDENT'S PAGE

by Walter A. German, M.D.

I want to alert you now that sometime during the Session you will be called upon to appear at a physician rally in Jefferson City.

Tort reform is the top priority for the MSMA

One of the main benefits that we members receive from the Missouri State Medical Association is excellent representation in Jefferson City.

In only one area were we not successful during the past session of the General Assembly. Despite a good fight, organized medicine did not pass any bills relating to professional liability (malpractice). As a Civil War general once said, "We have just begun to fight," and "You ain't seen nothing yet." For the past several months your Missouri State Medical Association president and its executive committee have joined forces with similar officers from The Missouri Association of Osteopathic Physicians and Surgeons and the Missouri Hospital Association. We also have been given some financial backing from all of the malpractice insurance carriers practicing in Missouri. After careful study and some 12 to 14 drafts, the health care field has put together an omnibus bill which incorporates all of the points we feel are needed to slow down and partially control the serious malpractice problem in our state. The bill will be introduced at the start of the next legislative session, and all efforts will be made to secure its passage. Many MDs, DOs, and hospital staff and administrators will be called upon to testify or to make presentations of various kinds. I want to alert you now that sometime during the Session you will be called upon to appear at a physician rally in Jefferson City. I believe hospitals probably will transport their medical staffs by buses.

Our neighboring state of Illinois was most successful in their recent malpractice campaign, thus many of their ideas have been incorporated into our campaign.

Once again, I call upon every medical doctor in Missouri to join the Missouri State Medical Association. Join your colleagues and do your part to help bring us success in trying to solve your malpractice problems. Put aside your petty differences and show that you, too, are interested in maintaining quality medicine in Missouri. Don't wait for a gilded invitation. Join us now. We need your help.

Many physicians have been appearing before a select Senate committee in the past months giving testimony concerning the malpractice issue. Several senators on this committee have recommended that our association meet with the Missouri trial attorneys to see if we can work out our mutual problems. In accordance with this request, the Missouri State Medical Association arranged for a two-day meeting with the trial attorneys. Also attending that meeting were representatives of the Missouri Association of Osteopathic Physicians and Surgeons, the Missouri Hospital Association and most of the malpractice insurance companies.

If we cannot arrive at reasonable agreements with the attorneys in the next few weeks, we are prepared to go to the legislature to change the course and destiny of medicine in the state of Missouri. ■

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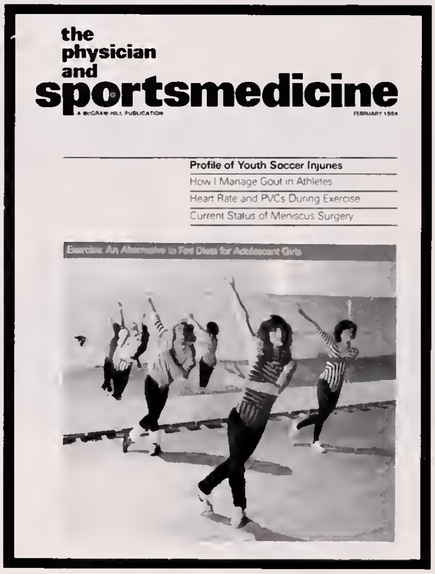

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Auxiliary Message

by Eileen Dyer
Membership Chairman

Wanted: your spouse for MSMA Auxiliary

Fall is in the air, football is on the tube, and finding new Auxiliary members is heavy on my mind!

Although it's not quite the lyrics to a new song, it is an old but true song. We need you (or your spouse) as a member of the Missouri State Medical Association Auxiliary.

Our organization, now 60 years new, is a viable, visible and valuable companion to the MSMA. Just as a companion in the married state, we are here to aid, support and accompany the activities and goals of the MSMA.

Just as a companion in the married state, we are here to aid, support and accompany the activities and goals of the MSMA.

Our membership has continued to be very active at both the state and county levels, and this year we are certainly proud of our Missouri Auxilian, Mary Kay McPhee (Mrs. William) serving as AMA Auxiliary national president. Other Auxilians serving at all levels of the Federation have certainly helped to put Missouri at the "top." But this top line for Missouri requires a strong "bottom line" — and that's us, the state members. Each and every one of us is an important building block for continuing a strong Missouri Auxiliary.

Last year Missouri saw an increase in membership, which has allowed us an additional delegate to the national convention. This increase certainly reflects the hard work of our state and county membership chairmen and their committees. We need to do it again this year. Our fair share increase for 1985-86 is only 76 members, certainly a realistic goal. What a proud tribute to Mrs. McPhee if Missouri could really do it again during her year as national president.

We need you, the spouse of a Missouri State Medical Association member. Let us share with you the benefits of our organization — the fun and friendships, the community/health education involvement, the rewards of fundraising for AMA-ERF and MSMF, and the knowledge of current legislative activities affecting your spouse's medical practice.

If at this time, your current family obligations, job or other commitments prevent you from an active role in Auxiliary events, please consider joining us in a supportive role. This support is mutually beneficial: You will receive your Auxiliary publications and information keeping you knowledgeable about the many changes going on in medicine today, and your support will allow us to continue many worthwhile programs and activities. This is the most effective public relations we can offer our spouses — to show we care.

You may join us through your local county Auxiliary, or as a member-at-large if you are in an area with no organized county auxiliary. Please contact either Lucille Mayfield, members-at-large chairman (17 Tree Brook Dr., Crystal City 63019), or me, Eileen Dyer, membership chairman (802 No. 25th St., St. Joseph 64506) if we can help in any way to clarify membership for you. ■

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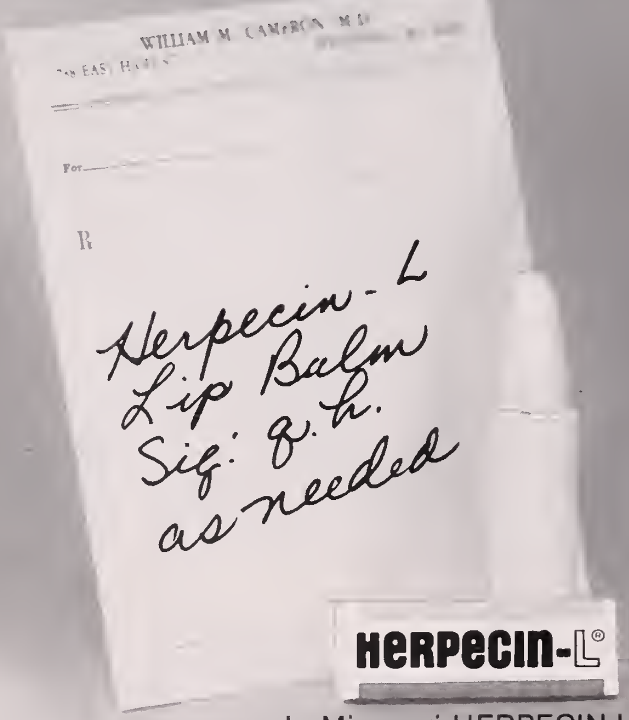

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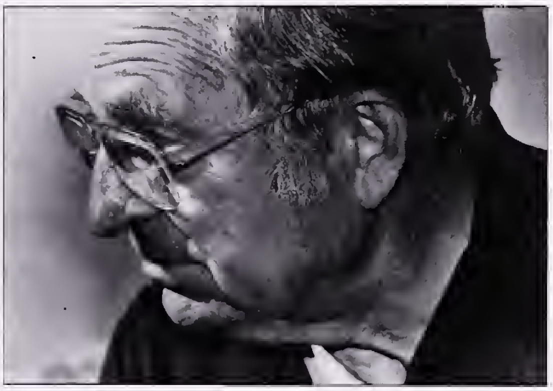
J. Otto Lottes Library Completed

Dedicated Sept. 13, 1985



(Above) Dr. J. Otto Lottes, a 1935 graduate of the University of Missouri School of Medicine, donated $1 million in real estate in 1979 for the construction of a new library.

(Left) The new J. Otto Lottes Health Sciences Library uses passive solar energy from two atriums, which run the full length of the building and maximize natural light.

MESSAGE FROM THE DEAN

The new library will continue serving the same population as before: our 350 medical school faculty and other academic personnel, 300 house staff, 450 medical students, 420 School of Nursing faculty and students, and 800 School of Health Related Professions faculty and students.

In addition, all Missouri health sciences professionals are welcome to use the new facilities. We invite you to come and learn how to use the multiplicity of learning tools in the new library. This is your facility on campus; please come, use, understand.

William D. Bradshaw, M.D.

A student loan and a job jerking sodas downtown at the Hopper-Pollard Drugstore made medical school at the University of Missouri in Columbia possible for J. Otto Lottes. During the Depression, the $4.25 credit hour fee and $30 monthly room and board was a lot of money.

But 50 years later, the internationally known orthopedic surgeon hasn't forgotten his days as a financially-pressed student. Dr. J. Otto Lottes gave 3,200 acres of land, valued at $1 million, to the University of Missouri-Columbia (UMC) School of Medicine in 1979 to launch a new library.

The remainder of the $5 million total cost for the library was funded by $3,185,000 in state appropriations and $815,000 in private contributions from more than 750 individuals and institutions.

Dedicated in his honor September 13, the 39,000-square-foot J. Otto Lottes Health Sciences Library offers triple the space of the old facility. The new quarters, with room for 350,000 volumes, will provide for up to 10 years' growth and can accommodate more than 400 users.

The Missouri alumnus says his gift was just one way of thanking his alma mater for the start it gave him in life.

"If it wasn't for Missouri U, I wouldn't be here today. They took me with nothing and gave me an education," Dr. Lottes says.

After earning the Bachelor of Science in Medicine degree in 1935 from the University, Dr. Lottes practiced orthopedic surgery in St. Louis. His long and distinguished career in medicine was highlighted by his invention of what is now called the Lottes Nail, a three-pronged metal pin used to correct fractured tibias.

Dr. Lottes lives his beliefs through unmatched intellectual curiosity and dedication to medicine, says UMC School of Medicine Dean William Bradshaw.

"It's extremely fitting that a major repository of books, facts, periodicals and learning devices be given his name," Dr. Bradshaw says.

And, if former Dean Dudley Conley were still living, he would no doubt second Dean Bradshaw's remarks. When the young Lottes' drugstore job resulted in a low test score, Dean Conley let him know how he felt about medical students working part-time. But when he learned that no job meant no food for his student, the dean got him a night job in the medical school library for $15.05 a month. Fifty years later, J. Otto Lottes repaid the favor, with a new library. ■

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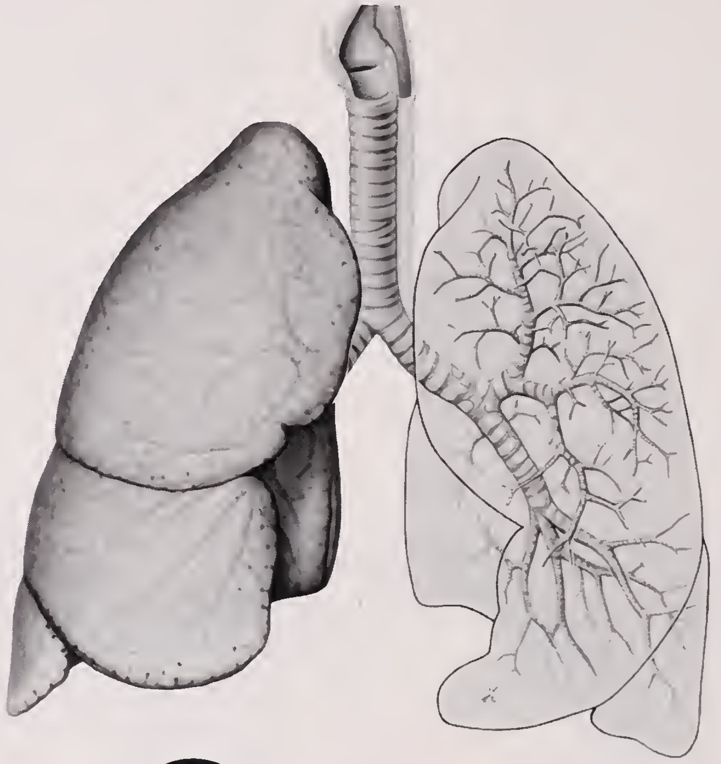

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Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms.

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci).

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication. Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: *General Precautions* — If an allergic reaction to Ceclor® (cefaclor, Lilly) occurs, the drug should be discontinued and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy — Pregnancy Category B — Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor® (cefaclor, Lilly). There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers — Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Ceclor is administered to a nursing woman.

Usage in Children — Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain — Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic — Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic — Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal — Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[0617B2R]

Note: Ceclor® (cefaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Special UMC Issue

Testifying:

What You Should Expect Under Cross-Examination

Jay D. Dix, M.D.
Columbia, Missouri

Let's suppose you are subpoenaed to testify in court about a patient you have treated or diagnosis you have made. When the subpoena is first received, you become nervous or even frightened about the prospect of having to defend your medical expertise in the courtroom. The reason for this is quite simple and understandable. You have not received formal instruction in the art of testifying and you have never learned what to expect from an attorney under cross-examination. Knowing some of the tactics used by attorneys during cross-examination is necessary in order for you to best represent your opinion.

The first step toward knowing what to expect in the courtroom is to understand the adversarial nature of our legal system. During a trial, whether civil or criminal, there are two sides, the plaintiff and the defendant. Each side presents those facts which he hopes will win a favorable decision. Only one side can win. The physician/witness will testify to those facts that help only one side or the other, rarely both. Any witness will be looked upon by at least one party as an adversary because his testimony cannot help both sides.

Testifying is an art. When you are called to court, you are considered an expert and you will be expected to present the pertinent information in an expert manner. Whether you realize it or not, the jury will expect you to be the same professional on the witness stand as you are in the office when treating your patients. But you, as the physician/witness, are at a disadvantage in the courtroom: lawyers are at home there; physicians are not. In law school, a student is taught how to question witnesses. As his career develops, he becomes a more experienced examiner. He has the benefit of textbooks and legal literature that are devoted solely to the art of cross-examination, especially of the medical expert. Physicians, however, are never taught what to expect from a legal professional.

Before you take the stand, you are often contacted by the attorney who has had you subpoenaed. This attorney usually needs your testimony to support the side of the case he represents. The good attorney will map out for you what is expected of you and explain how your testimony is a vital part of the case. You will usually be given the exact line of questioning and prompted answers the attorney hopes to have the jury hear. This personalized attention, coupled with monetary compensation for your time spent in court, might mislead you into thinking the coming ordeal will not be as traumatic as you originally thought.

But most physician/witnesses are ill-prepared for the cross-examination that follows their attorney's direct examination. Rarely is the physician told what to expect from the opposing attorney. To the other side, the witness represents the adversary. The cross-examiner will do everything in his power to lessen the impact of your testimony. The opposing attorney's job is to impeach or call into question your credibility, and — he hopes — to make you look bad to the jury.

Above all else, you must remain calm. No matter what the question or how it is asked, you must maintain your composure and not become excited. Answers calmly given during direct examination must be reiterated in the same manner during the

POINT: An attorney's view

Although I certainly agree with Dr. Dix overall, I do believe there are two or three things that are not precisely accurate in his article.

For example, there is a suggestion that the physician should turn and ask the judge for permission to explain an answer. I do not believe this is a proper suggestion. The witness is obligated to answer the question put to him and, essentially, has a right to explain that answer unless the explanation is in the nature of an advocacy statement.

Judges normally will protect the witness' right to explain, although they will, if they believe the witness is functioning as an advocate, often require that the explanation be given on redirect examination. I do not believe it is good courtroom etiquette for the witness to turn and address the judge. Furthermore, from a tactical point of view, the lawyer presenting the physician/witness may not want the witness to explain.

Secondly, I believe it is the obligation of the physician witness not to be an advocate but rather to first express the facts as he knows them or believes them to be and second, to express his opinion. I have never been faced with a physician who on cross-examination could not provide, at least from an educational point of view, valued information for the jury. I also have never been faced with an expert witness on cross-examination from whom I thought I could not obtain a few helpful facts.

An expert witness is one who, by definition under Missouri law, is allowed to express his opinion because the jury, consisting of laypeople, lacks sufficient knowledge to take the underlying or basic facts and form an opinion themselves. The expert witness has a secondary function of educating the jury.

Therefore, I question whether or not a physician/witness testifies of facts that will help only one side or the other. If the physician does his job, then he will present the facts as they relate to medicine, and he will not be an advocate.

An honest, forthright physician on the stand, in fact, will almost inevitably help both sides. No picture is completely bleak from the defendant's or from the plaintiff's point of view. I am afraid that Dr. Dix is indicating that the physician/witness should be an advocate. I don't believe that he should be. He should be the professional that he is.

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cross-examination. The attorney who elicits anger and frustration from the witness will usually be happy with the results. Jurors do not like to see a professional "lose his cool" on the stand. Regardless of the facts, if the witness does not make a good impression on the jury, the impact of his testimony is lessened.

No question, however asked, should be taken personally. You must understand that anything may be said to disarm you. An experienced attorney will attack your medical knowledge using any method he can. The physician who becomes bothered usually does so because his medical knowledge is called into question; any professional tends to become angered when an untrained person questions his expertise and skill. However, your ego should not get in the way of delivering a well-thought-out, logical presentation of the facts. If the cross-examiner becomes too abusive, the court usually will come to your rescue. Once the courtroom proceedings are finished, the opposing attorney will probably want to shake hands with you and explain he was only doing his job.

During the direct examination, your credentials will be presented in order to qualify you as an expert. Usually you are considered an expert in the eyes of the court. However, your expertise may be called into question during cross-examination if the facts of the case are of a specialized nature. For example, if a patient died of a heart attack and you are a family practitioner and not a board-certified cardiologist, the cross-examiner will undoubtedly grill you on your experience with heart disease. He may go so far as to suggest that your knowledge of heart disease cannot possibly be as extensive or complete as that of a board-certified cardiologist.

If you know the central issue of the case revolves around a certain point, for example, heart disease, then you should make sure you know the current information on the subject. It is vital for you to be up-to-date, because your adversary most assuredly will be. Either the adversary will know the current literature or his expert will know. A common ploy is for the attorney to quote from some of the most recent articles or textbooks concerning heart disease. In some cases the attorney may be better informed than the physician. Does this mean you must conduct a literature search on heart disease prior to the trial? No, but you at least should be well versed on what the latest editions of standard textbooks say about heart disease. Most jurors will understand, if you take the time to explain, that you are too busy taking care of your patients to keep abreast of all the latest articles in medicine.

You must be aware of all the facts pertaining to the case. This review needs to include all the information about the patient, especially that contained in the hospital charts. Notes from nurses, respiratory and occupational therapists, and any other health professionals, should be read and remembered. A physician who does not have a grasp of all the essential information looks inept to the jury, especially if the cross-examiner can call to mind every piece of available information. A surprise question about something you thought was unimportant can be disconcerting as well as embarrassing.

You should be prepared to answer a question about being paid to testify. If you are being paid, and most physicians are, then you should respond by stating you are being compensated for your time. The cross-examiner will probably not ask the exact amount, but if asked, you should not be embarrassed to give the amount. No answer should be given in an apologetic manner, unless of course the amount is an outrageous one by normal standards.

Your credibility can be destroyed if you become flustered or confused. An attorney is capable of causing confusion by a number of methods. He might fire the questions so fast that you feel compelled to answer quickly, or he may shout and carry on as if he were an actor, raising and lowering his voice with dramatic inflections. But no matter how dramatic the attorney acts, you should maintain a composed demeanor and answer with conviction. You should never take the bait and act like the attorney. If you are confused by the question, you should ask the attorney to repeat it. If you need time to think of an appropriate answer, you should not hesitate to take it. Sometimes a slow response is just what is needed to disrupt the attorney's antics. Asking the attorney to repeat his questions a couple of times in a row also helps disrupt the flow of a specific line of questioning.

Common medical jargon is generally not part of a juror's working vocabulary. The jury will become lost within minutes if common lay terms are not used. If complicated medical terminology must be used, a lay description or explanation should follow. A simple example is "arteriosclerosis." If used when referring to the cause of a patient's death, "hardening of the arteries" is a helpful translation. Most jurors will then be able to understand what the witness is attempting to explain. A common tactic used by the cross-examiner might be to ask you what you are talking about, even if the attorney knows, in order to gain sympathy from the jury. The jurors possibly may feel that they, as well as the attorney, are in the same position of confusion. The attorney will gain points if he looks as though he is doing all he can to make a complex issue understandable to all "us common folk." This is another example of how subtle remarks may have a way of gaining favor.

If you do not know the answer to a question, you should not hesitate to say so. Vague explanations do more harm than good. Jurors have enough common sense to recognize a physician who is attempting to cover up. Even if you think you should know the answer and attempt some masterful verbal manipulation, you leave yourself open for another attack. The succeeding attack may be damaging, resulting in a distortion of the facts.

Many questions can be answered with a simple yes or no. However, if clarification is necessary, it should be offered. The attorney may complain to the judge that you are not giving the required yes-or-no answer. If he does so, and you feel an answer should be explained, you should turn and ask the judge for permission to explain. Most judges will allow a physician to reply in detail if the physician takes the initiative to ask. A note of caution: If a detailed explanation is necessary, the answer must not be confusing or lead the cross-examiner into a tangential issue. The best answers are simple and to-the-point.

COUNTERPOINT: The author's response

Mr. Oliver does not like the idea of a physician turning to the judge and asking if an answer could be explained. Most attorneys do not like this approach since this act may disrupt their line of questioning. In order for the physician to be an unbiased witness, some answers should be explained. Juries like to hear explanations. I have turned to the judge four or five times within the last year alone.

I also am bothered by Mr. Oliver's idea that physician/witnesses are not advocates. In many instances they are advocates because our legal system forces them to be so. I would be happy if they never had to be. Oftentimes, physician/witnesses do not have to be advocates, but when they do, they should understand what they are up against in the courtroom.

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Columbia

■ Testifying

Testifying may appear to be some sort of legalistic game. It is. Our legal system is based on the ability to prove which of two sets of facts is believable to a jury. The jury can believe only one side to render a verdict, unless there is the rare occurrence of a "hung" jury, in which case the trial must be rescheduled. If you feel the cross-examiner is the adversary, you are correct. However, all attorneys will use the same methods when questioning the professional who testifies for the opposing side.

You should understand what to expect during cross-examination if you are to be effective. Knowing the tactics discussed in this article may make the courtroom appearance less alarming. Maintaining composure and knowing all the facts are helpful starters. One need not be afraid to explain compensation and medical terminology; jurors can tell when someone is not being concise and direct. Alertness is the key to a confident, successful experience in the courtroom. The cross-examiner's job is to protect his client and to impeach the witness's testimony any way he can. Knowledge of what to expect should lessen the anxiety you might feel the next time you receive a subpoena. ■

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Jod-Basedow Hyperthyroidism with Unusual Clinical Manifestations

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Columbia, Missouri

Iodine-induced hyperthyroidism (Jod-Basedow) may occur in patients with underlying multinodular goiter. In this patient, hyperthyroidism developed after treatment of multinodular goiter with Lugol's solution. In addition to pancytopenia and monocytosis, the patient developed congestive heart failure.

Since Vagenakis[1] first described iodine-induced thyrotoxicosis in individuals with nontoxic goiter, a number of similar cases have been reported.[2, 3] The clinical picture, abnormalities in thyroid tests, and the response to treatment have been described.[2, 3] Patients with iodine-induced thyrotoxicosis are likely to be older; men predominate over women; 50% have a goiter. The hyperthyroidism is likely to begin acutely and undergo spontaneous remission; exophthalmos is virtually never present. These patients have been found to have elevated serum thyroxine, decreased thyroxine binding globulin, an absence of findings of autoimmune thyroid disease, non-visualization by pertechnetate scan (Tc 99M) and decreased or absent uptake with radioactive iodine (RAIU). The hematological findings have not been noteworthy. Treatment has consisted of withdrawal of iodides, anti-thyroid drugs, propranolol, prednisone, lithium, and in rare situations, iodine itself.[1, 3, 4]

Case Report

A 70-year-old white man developed voice and respiratory difficulties three years prior to admission and was noted to have a goiter. He was placed on Lugol's solution. Initially there was some decrease in the size of the goiter. In May 1984, he had a radioactive iodine uptake (RAIU) of 4% and was noted to have a serum thyroxine (T_4) and tri-iodothyronine resin uptake (T_3RU) of 24.5 mg/dL and 53.6% respectively. He was referred to the University of Missouri-Columbia. The patient's medications at the time of referral were triamterene-hydrochlorothiazide (Dyazide) once a day and atenolol for the recent onset of high blood pressure. He had lost 20 pounds and had been more irritable during the previous six weeks. He denied any other symptoms suggestive of hyperthyroidism. He had two sisters and a brother with "goiters."

On physical examination he appeared euthyroid; his blood pressure was 160/78, pulse 72 and regular, height 5'7", weight 154½ lbs. There was distention of the superficial veins of the right side of his face and neck. The thyroid was palpable above the clavicles, with the right lobe more prominent than the left; both were very deeply placed. No bruit was noted.

His initial hematological studies and thyroid

Table 1

Serum Thyroxine, Resin T_3 Uptake and Hematological Studies

Date	*T_4 (5-13 µg/dl)*	*T_3 RU (23-32%)*	*WBC (10_3)*	*Monocytes %*	*Hgb gm/dl*	*Plt (10_3)*	*Comments*
April 9	24.5	53.6	—	—	—	—	
May 7	>25.0	51.5	—	—	—	—	
May 29	>24.0	42.8	5.1	31%	11.8	"low"	
First Admission							
June 4	—	—	3.8	24%	11.7	74	
June 5	—	—	5.0	20%	12.5	—	
June 6	—	—	4.5	30%	12.5	—	
Second Admission							
June 25	—	—	8.2	26%	11.0	52	cellulitis,
June 27	23.2	—	—	—	—	—	mild congestive
July 5	21.2	—	—	—	—	—	heart failure
Third Admission							
Aug. 28	18.2	47.4	5.2	30%	11.2	42	severe heart
Sept. 4	>24.0	45.2	4.2	40%	11.9	59	failure
Sept. 8	19.1	—	—	—	—	—	thyroidectomy
Sept. 26	3.8	—	12.7	10%	14.3	117	
Oct. 17	—	—	4.2	16%	11.8	"low"	
Jan. 17	13.4	—	4.2	24%	13.8	89	

Abbreviations

T_4	serum thyroxine	WBC	white blood cell count
T_3RU	serum tri-iodothyronine resin uptake	Hgb	hemoglobin
		Plt.	platelet count

function tests are noted in Table 1. A chest x-ray (Fig 1) showed a 5 x 6-cm mass at the thoracic inlet, causing tracheal deviation to the left. A computed tomographic (CT) scan of the neck (Fig 2) revealed enlargement of the thyroid, the right lobe greater than the left, with extension into the mediastinum and compression of the trachea. A Tc 99-M scan showed no uptake by the thyroid.

Three days later he was admitted for further evaluation. A bone marrow aspiration and biopsy demonstrated only decreased megakaryocytes. At the recommendation of hematology consultants, the triamterene-hydrochlorothiazide was discontinued; he was discharged on a regimen of atenolol.

The patient was readmitted four weeks later with a weight gain of 6 kg. His pulse was 100 and irregular; blood pressure was 134/64. His lower extremities had tense, pitting edema, and there was an area of erythema and warmth over the left ankle consistent with cellulitis with ulceration. A chest x-ray was unchanged. A venogram failed to demonstrate a thrombus. Atrial fibrillation was noted on the electrocardiogram. The hematological and thyroid abnormalities were again noted.

A diagnosis of mild congestive heart failure secondary to hyperthyroidism and atrial fibrillation was made. Furosemide and digoxin were administered with some improvement in symptoms. The cellulitis of the left leg was treated with cloxicillin and elevation of the leg.

Six weeks later, he returned to clinic with symptoms of heart failure, including dyspnea on exertion, two-pillow orthopnea, and increased leg edema. He had an irregularly irregular pulse. Dullness to percussion and dry rales were present in both lung bases. The liver was 12.5 cm in span and the spleen tip was palpable. He had a tense, distended abdomen, with shifting dullness.

His hematological findings and thyroid function values were unchanged. Chest x-ray showed bilateral pleural effusions. On paracentesis, 95ml of bloody fluid were obtained. A cytological report indicated the cells were benign and were thought to be reactive mesothelial cells. A thoracentesis returned bloody fluid, also with reactive mesothelial cells. A fine-needle aspiration of the thyroid was done. The cytology report indicated that there were a few follicular cells and modest colloid; findings were consistent with a benign colloid goiter. Twenty-four hour urinary iodine excretion was 17 mg/day (normal 0-0.8 mg/day).

The patient's congestive heart failure was felt to be secondary to hyperthyroidism. The possibility of malignancy with metastases was of concern, however. At this time, the decision was made to proceed with a thyroidectomy. The patient underwent total

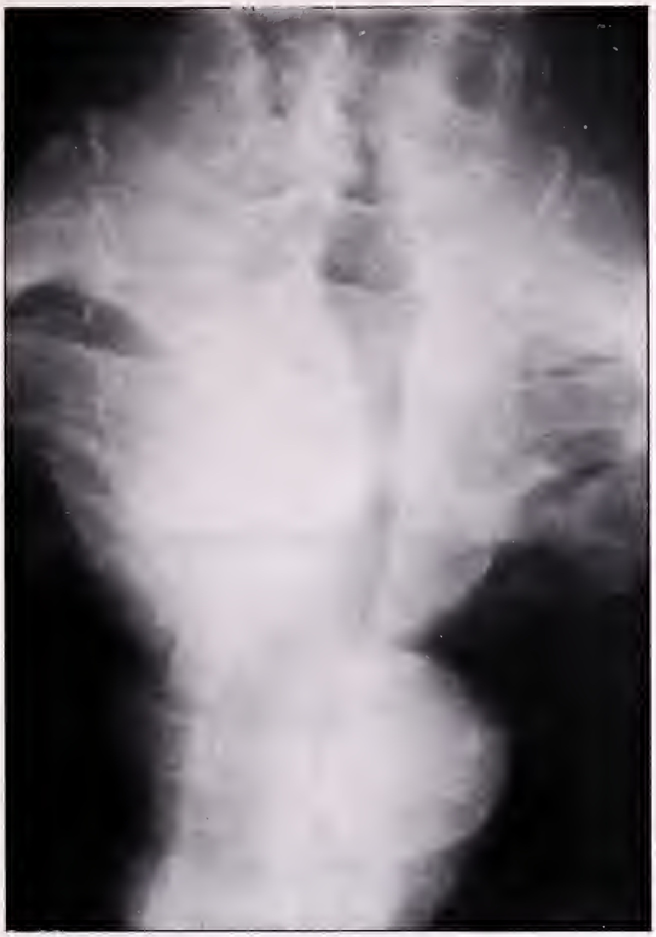

Figure 1. Chest x-ray shows thoracic mass and tracheal deviation.

thyroidectomy on the ninth hospital day. The thyroid weighed 250-300 gm. The pathologist reported it to be a benign colloid nodular goiter. The patient was discharged on the 12th hospital day on a regimen of digoxin, furosemide, potassium chloride, and spironolactone.

The patient returned two weeks later feeling much better. His pulse was 78 and irregular; blood pressure was 140/74. The heart and lung examination results were otherwise normal. The abdomen was flat without evidence of ascites; the liver size was decreased. The serum thyroxine level was measured at 3.8 µg/dL. The spironolactone was discontinued and the furosemide dosage decreased. A regimen of L-thyroxine 0.15 mg every day was started.

On follow-up visits six weeks and four months postoperatively, he was noted to continue to improve; his physical examination was unremarkable. All medicines except L-thyroxine have been discontinued.

Discussion

Iodine can cause several thyroidal complications: (1) thyroditis, (2) iodide goiter or hypothyroidism, and (3) iodine-induced thyrotoxicosis (Jod-Basedow).[3] The name Jod-Basedow has an interesting derivation. Parry in 1825 and Graves in 1835 provided early case descriptions of hyperthyroidism in the British Isles. Von Basedow made a detailed, clear description of the same disease in 1840 in Germany. Hyperthyroidism came to be called either Graves' or Basedow's disease.[5]

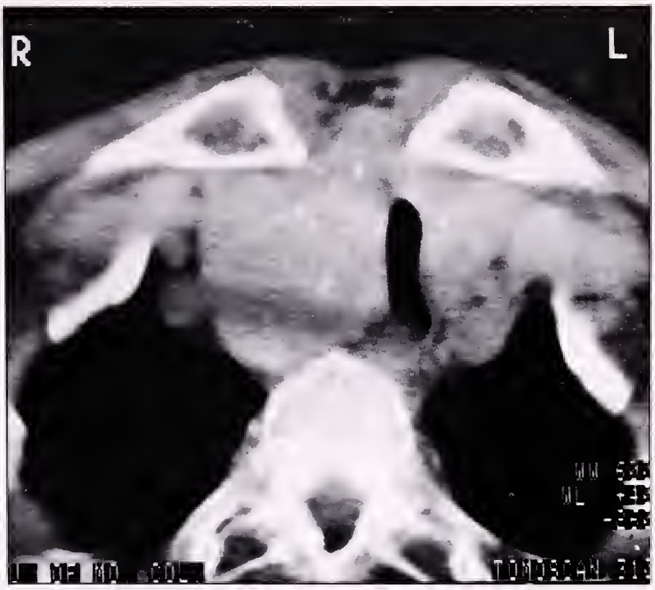

Figure 2. CT scan of upper thorax shows substernal thyroid gland and tracheal compression.

In 1811, iodine was isolated from sponge and kelp.[3] Because of the known connection between these substances and treatment of goiter, Jean-Francois Coindet successfully tried to shrink goiter by using iodine alone. However, in 1821, he reported six of these patients had developed what today would be called thyrotoxicosis.[3] Breuer first referred to iodine-induced hyperthyroidism in the German literature as "jodbasedow." In English this means "iodine-Basedow's" disease, or "iodine hyperthyroidism." The term gradually has come into use in the English-language literature.[6]

Vagenakis first focused attention on Jod-Basedow in underlying multinodular goiter.[1] While examining the effects of potassium iodide on normal subjects and those with underlying thyroid disease, four of eight subjects with multinodular goiter developed hyperthyroidism.

Since then, it has become clear that Jod-Basedow may occur in areas of iodine sufficiency, that underlying multinodular goiter is a risk factor, and that many forms of iodine (e.g. povidone-iodine solution (Betadine), radiocontrast materials, iodine-containing medications) may cause the thyrotoxicosis.[2, 3, 7]

The cause is still not at all certain. Fradkin and Wolff[3] postulated that defective autoregulation of hormone biosynthesis may be a contributing factor at least. The review by Fradkin and Wolff, coupled with Wolff's review of iodine goiter,[8] provide the most comprehensive works on the subject.

Treatment can be difficult. Stopping the iodine-containing substance and standard approaches to treating thyrotoxicosis usually suffice, but the course may be prolonged, especially in those patients with multinodular goiter.[1-3] These same patients are often elderly and have other medical conditions which may be exacerbated by the thyrotoxicosis.

This patient's hematological values are also noteworthy. Hertz and Lerman[9] studied patients with exophthalmic goiter (i.e. Graves' disease) using supravital staining of the blood. They noted leukopenia with an absolute monocytosis in most patients. In these patients, treatment with iodine caused a reduction in both the percentage and the absolute number of monocytes. Surgical removal of the gland caused reversal of the monocytosis as well.

Thrombocytopenia of a severe degree has been noted in a case of toxic multinodular goiter.[10] The half life of the circulating platelets was found to be decreased; the bone marrow showed a slight increase in the megakaryocytes. Treatment of the hyperthyroidism resulted in improvement of the platelet count.

The anemia in this patient has resolved; he continues to be observed for further changes in his hematological profile. Because of the potential complications, we believe the use of iodine-containing compounds should be more carefully prescribed in patients with underlying thyroid disease.

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Age-Related Changes in the Glycoproteins of Brain Tissue

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The concentrations of various types of oligosaccharide chains attached to the glycoproteins of the human brain change with age, becoming more markedly changed after the sixth decade of life. The changes are documented in this study of the chemical makeup of nine human brains of various ages.

Glycoproteins are essential components of biomembranes and appear to be involved in cell-cell interaction, developmental processes and cell-environmental communication systems. Noteworthy glycoproteins in brain tissue include alkaline phosphatase, the lysosomal glycosidases, Na,K-activated ATPase, dopamine β-hydroxylase, the acetylcholine receptor, the "opioid" receptor, acetylcholinesterase, viral receptors, the protein precursors of enkephalin and other hormones and neurotransmitters and many other glycoproteins most of which remain to be identified. The oligosaccharide chains attached to the protein portion of a glycoprotein consist of four major types[1-6]

The smallest chains are the O-linked oligosaccharides that are attached by an alkali-labile O-linkage to the serine or threonine residues of the protein molecule. These chains contain sialic acid, N-acetylgalactosamine and galactose as their component sugars. The oligosaccharide chains of the fetuin, transferrin, and ovalbumin type are linked to the protein by the alkali-stable N-linkage to the asparagine residue of the protein or peptide chain. The oligosaccharides of the proteins fetuin and transferrin contain sialic acid, N-acetylglucosamine, mannose, galactose, and fucose. Such oligosaccharides are present in many other glycoproteins including those of brain. The oligosaccharides that contain only mannose and N-acetylglucosamine, often referred to as the "mannose-high oligosaccharides," were initially discovered in ovalbumin and are now also known to occur in many glycoproteins including those of brain.[7]

The oligosaccharides of the glycoproteins of any tissue are easily recovered by treating the defatted tissue with proteolytic enzymes such as papain or pronase. These enzymes cleave a high proportion of peptide bonds, enabling the investigator to recover the oligosaccharide chains in the form of soluble glycopeptides.

Methods

The brain material consisted of nine human brains from neurologically normal male individuals. After removal of the lipids,[8] the dried insoluble residue was incubated with papain[9] to yield a solution from which glycosaminoglycans and nucleic acids

Table 1
Age-Related Changes in Glycoprotein-Carbohydrate of Human Brain Tissue

	Type of Oligosaccharide Chain (μmoles hexose or sialic acid/g wet weight of brain)			
Age	O-linked (hexose)	Fetuin (hexose)	Transferrin (sialic acid)	Ovalbumin (hexose)
25	0.16	2.0	0.020	1.2
36	0.16	2.1	0.030	0.9
44	0.16	1.8	0.028	0.9
48	0.32	1.5	0.025	1.2
Average:	0.20	1.8	0.026	1.1
Standard Deviation:	0.08	0.27	0.004	0.17
53	0.32	0.9	0.020	1.5
61	0.42	1.4	0.026	1.3
67	0.38	1.0	0.038	1.3
76	0.39	0.6	0.054	2.3
85	0.55	1.0	0.068	2.2
Average:	0.41	1.0	0.041	1.7
Standard Deviation:	0.09	0.29	0.02	0.49
P value: (t test)	$P < 0.003$	$P < 0.002$	$P < 0.2$*	$P < 0.05$

* see text

were precipitated by the addition of cetylpyridinium chloride.[9] The O-linked oligosaccharides[10] were recovered by equilibrium dialysis after hydrolysis for 20 hours in 0.2 M sodium hydroxide containing 1 M sodium borohydride. The N-linked glycopeptides were separated by passage through columns of concanavalin A-Sepharose 4B to provide the non-binding glylcopeptides of the fetuin-type, the weakly binding glycopeptides of the transferrin type and the strongly binding glycopeptides of the ovalbumin type.[11, 12] Neutral sugars[13] and sialic acid[14] were analyzed spectrophotometrically and by a gas-liquid chromatography (GLC) method.[15] The values for the younger 25 to 48-year-old group were generally either higher or lower than those obtained from the older 53- to 85-year-old group and, therefore, these groups were taken for comparison.

Results

The fetuin-like sialooligosaccharides show an age-related decline in concentration that is highly statistically significant (Table 1). The decline is especially marked in the three oldest brains. On the other hand, the concentration of the O-linked oligosaccharides and the ovalbumin-like oligosaccharides showed statistically significant increases in the aging brains. The concentration of the sialooligosaccharides of the transferrin type presented a difference of doubtful significance (Table 1). However, it was noted that the concentrations of these sialooligosaccharides began to increase only after age 61. When one compares the concentration of these transferrin-like oligosaccharides in the 25- to 61-year-old group (0.025 μmoles glycopeptide-sialic acid per gram brain, S.D. = 0.004) to the concentration in the 67- to 85-year-old group (0.053 μmoles per gram brain, S.D. = 0.015), the difference between these younger and older groups becomes highly significant ($P < 0.001$).

The amount of hexose and sialic acid in those oligosaccharides that decline in concentration with age is approximately balanced by the increase in concentration of the oligosaccharides that increase with age. Consequently, one sees no statistically significant age-related change in the total hexose and sialic acid associated with the glycopeptide preparations from the nine brains.

Discussion

Data on the changes in glycoprotein-carbohydrate content in aging brain are sparse. It has been noted that the concentration of sialoglycopeptides of the fetuin type was lower in the cerebral gray matter of a 72-year-old brain compared to that of an 8-year-old brain.[16] Senescent rat neurons were found to bind more fluorescamine labeled concanavalin A than neurons from young rats,[17] a finding in accord with the present observations that the oligosaccharides of the transferrin and ovalbumin type that bind to concanavalin A show increased concentrations in the aging human brain.

The cause of the age-related changes found in this investigation is unknown. It is likely that the concentrations of different types of glycoproteins change as the brain ages. The identification of these glycoproteins and their functions may serve to clarify some of the mechanisms that contribute to the aging process.

Some previous observations may provide a clue to the cause of the observed changes. The oligosaccharides of the fetuin-type, the concentrations of which decrease with age, are two to three times higher in gray than in white matter.[18, 19] Glycoproteins that contain these oligosaccharides are therefore presumably largely located in nerve cell bodies and their synapses.[20, 21] On the other hand, oligosaccharides that increase in concentration as the brain ages are more concentrated in white matter, which is largely composed of glial cells and myelinated axons. Thus, the oligosaccharides of the ovalbumin type and the O-linked oligosaccharides are respectively 50% and 200%[19, 22] more concentrated in white matter than in gray. Perhaps these oligosaccharides show a higher concentration in glia than neurons. Therefore, the observation of Storrock[23] that almost all studies agree that the number of glia increases with age and that glial proliferation appears to be associated with neuronal loss, may, in part, explain our findings.

The protein-linked oligosaccharides of glycoproteins probably serve as markers that serve to identify these proteins. Distinctive features inherent in the oligosaccharides may be recognized and identified by receptor sites in other macromolecules, thereby initiating an interaction between them. In addition to the work of Kornfeld and Kornfeld[4] referred to above, Shepherd and Stahl[24] at Washington University have been investigating macrophage receptors that recognize lysosomal enzymes many of which are glycoproteins. Creek and Sly[25] at St. Louis University have recently reviewed the role of the phosphomannosyl receptor in the transport of acid hydrolases to lysosomes. Abnormalities in these systems are responsible for some of the variants of the mucolipidoses.

Since the changes observed in the present study are presumably age and not disease-related, elucidation of the properties and functions of the glycoproteins of the brain may uncover some unexpected aspects of the aging process, especially as these affect neural tissue. The changes observed in the present study may indicate relative changes in the number of different cell types, as noted above. Alternatively, age-related changes in the manner whereby the oligosaccharide chains are assembled, or in the manner whereby they are degraded by lysosomal enzymes, may account for the results we have observed. Only a few of the many glycoproteins of brain have been identified and studied. This area of research is receiving increased attention. The significance of the results reported here can only become apparent as current research related to the metabolism, properties and functions of the glycoproteins of the brain progresses.

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Reprints

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Affective Disorders in an Inpatient Community Mental Health Center

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One hundred patients diagnosed with affective disorders were grouped in various ways according to accepted classifications, and the groups compared. The characteristics of each group are discussed. Clinicians are advised to take heed of psychotic features to avoid misdiagnosing these conditions.

Depression is a clinical syndrome that was first described as early as the eighth century B.C.[1] The term "melancholy" appeared in Hippocratic writing in the 4th century B.C. However, the first comprehensive description, entitled "Treatise of Melancholia," was published in English in 1586. Since then, depression has been studied from numerous perspectives, and recent studies indicate that affective disorder is the most prevalent psychiatric disorder, afflicting up to 20% of adults in their lifetime.[2] In 1976, Ben Locke, M.S.P.H., chief of epidemiologic studies at the National Institute of Mental Health, stated during a Kansas City, Mo., conference[3] ". . . overall costs, that is, treatment, prevention, plus cost of reduction in productive activity, costs the nation somewhere between $1.3 billion and $4 billion per annum. As overwhelming as is that cost, it probably understates the true cost because it does not take into account the total toll inflicted by the depressive disorders."

Affective disorders are no respecter of social class, educational background, or even youth.[4] As a heterogeneous group of illnesses, they have been classified as bipolar (the person has a history of mania) *v* unipolar (a history of depression only); primary (depression occurring in a person with no prior history of any psychiatric disorder) *v* secondary (dependent on preexistent psychiatric illness); psychotic (the presence of delusions, hallucinations, etc.) *v* nonpsychotic, and so on.

Biochemical and pharmacological evidence suggests that depression could be divided into at least two subtypes.[5] The first is characterized by low urinary excretion of 3-methoxy-4-hydroxylphenylglycol (MHPG), which is the main metabolite of CNS norepinephrine, and a good clinical response to imipramine.[6, 7] In the second subtype, there is an excessive urinary excretion of MHPG but a favorable clinical response to amitriptyline.[6, 8, 9] It is thought that patients receiving imipramine have a more effective blockade of norepinephrine and those taking amitriptyline have a more effective blockade of serotonin. Therefore, the strong defense for this classification is some demonstrated ability to predict treatment response as well as construct validity based on a catecholamine or indolamine hypothesis concerning the etiology of affective disorders.[1] The third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) of the American Psychiatric

Table 1
Some Characteristics of 316 Inpatients in a Community Mental Health Center

Characteristics	*Number*	*Percentage*
Sex		
Male	123	38.92%
Female	193	61.08%
Race		
Black	19	6.01%
White	293	92.72%
Others	4	1.27%
SES		
Class I	0	0%
Class II	11	3.48%
Class III	136	43.04%
Class IV	166	52.53%
Class V	3	0.95%
Marital Status		
Never Married	111	35.12%
Divorced	66	20.88%
Widowed	12	3.80%
Separated	6	1.90%
Married	118	37.35%
Unknown	3	0.95%
Diagnosis		
Affective Disorders	100	31.65%
All Other Diagnoses	216	68.35%

Association[10] categorizes affective disorders into three groups:

I. *Major affective disorders*, in which there is a full-blown syndrome (bipolar disorder and major depression). Major depression, the most common condition in adults, manifests as dysphoric mood, consisting of any of the following: feeling sad or hopeless, unhappy, low, blue, down in the dumps, feel like crying, irritable, or depressed. In addition, the person exhibits any four of the following eight: (1) appetite disturbances (overeating or anorexia) with consequent weight gain or loss; (2) sleep disturbances (initial, middle, or terminal insomnia, or on the contrary, hypersomnia); (3) fatigue; (4) loss of interest in pleasure, such as in sex, etc.; (5) psychomotor agitation or retardation; (6) difficulty in concentration or decision-making; (7) extreme guilt feelings; (8) suicidal ideations, attempted suicide, or preoccupation with death. The condition should be predominant and persist at least two weeks in order to be considered a major depression.

II. *Other specific affective disorders*, in which there is only a partial syndrome, with at least a two-year duration (dysthymic, cyclothymic).

III. *Atypical affective disorders*, a group that cannot be classified into either of the above two classifications.

Because each of these categories has either clinical or research insignificance, investigators have delineated some of the differences between primary and secondary depression.[11, 12] However, there is a paucity of literature empirically comparing these classifications; for example, how significant and clinically useful is the dichotomy of psychotic *v* nonpsychotic depression?

Table 2
Classification of 100 Patients with Affective Disorders in an Inpatient Community Mental Health Center

Major Depressive Disorder	39
Bipolar Affective Disorder	38
Dysthymic Disorder	16
Atypical Depression	7
Total:	100
Primary Affective Disorder	79
Secondary Affective Disorder	21
Total:	100
Psychotic	36
Nonpsychotic	64
Total:	100

This study was designed to answer some of these questions by classifying 100 affectively ill subjects according to DSM-III, psychotic/nonpsychotic and primary/secondary dichotomies. In addition, some of the characteristics of each subtype were observed in this inpatient setting in a community mental health center.

Method

The sample consisted of 316 consecutive admissions (not counting 43 readmissions) to an adult inpatient ward of a community mental health center during a 14-month period. The ages of the patients ranged between 14 and 81, with a mean age of 41.3 years. (There were only a few adolescent patients.) Other characteristics of the subjects are depicted in Table 1.

This community mental health center is located on the campus of the University of Missouri-Columbia. It is a short-term inpatient facility, admitting a wide variety of patients. The goal of studying 100 patients with affective disorders was attained only after a total of 316 admissions to the facility. All subjects were interviewed by one of the investigators (ABD). The diagnosis, based on the DSM-III criteria, was made after the clinical interview and review of data collected from other sources including admitting residents, nursing, social service personnel and relatives. The interview was conducted within 24 to 48 hours after admission, unless the condition of the patient would not allow it (i.e., acute psychotic episode). Before starting the project, a reliability test for the diagnosis of affective disorder was made with another psychiatrist (ABD and JHK) in 15 subjects. This was a joint interview, and complete agreement on a diagnosis of affective disorder was obtained in all cases.

Because there were 240 comparisons to test, a conservative experimentwise error rate of .05 was set. We partitioned this error rate of .05 into 240 parts of .002 each following the Bonferroni procedure.[8] Thus,

Table 3

Comparison of All Patients with Affective Disorder and Without Affective Disorder

Characteristic	*Affective Disorder* ($N = 100$)	*Nonaffective Disorder* ($N = 216$)	Significance
Mean Age	38.6	30.7	$z = 5.07$, $p < 0.0001$*
Sex (M/F)	(28/72)	(95/121)	$\chi^2 = 7.34$, $p < .007$
Race (B-W-O)	(6-93-1)	(13-200-3)	ns
SES	3.5	3.4	ns
Married	73 (73.00%)	45 (20.83%)	ns
Number of Admissions	3.02	2.36	$z = 3.18$, $p < 0.0014$
Alcohol Abuse	20 (20.00%)	72 (33.33%)	$\chi^2 = 5.88$, $p < 0.02$
Drug Abuse	16 (16.00%)	60 (27.77%)	$\chi^2 = 5.19$, $p < 0.03$
Irritable	19 (19.00%)	49 (22.68%)	ns
Depressed Mood	67 (67.00%)	112 (51.85%)	$\chi^2 = 6.38$, $p < 0.02$
Depressed Appearance	59 (59.00%)	102 (47.22%)	ns
Anhedonia	54 (54.00%)	76 (35.18%)	$\chi^2 = 9.99$, $p < 0.002$
Gaining Weight	8 (8.00%)	9 (4.16%)	ns
Losing Weight	38 (38.00%)	43 (19.90%)	$\chi^2 = 11.73$, $p < 0.0006$
Initial Insomnia	60 (60.00%)	54 (25.00%)	$\chi^2 = 36.31$, $p < 0.0001$*
Middle Insomnia	60 (60.00%)	43 (19.90%)	$\chi^2 = 50.00$, $p < 0.0001$*
Hypersomnia	15 (15.00%)	9 (14.16%)	$\chi^2 = 33.41$, $p < 0.0001$*
All types of Sleep Disturbances	65 (65.00%)	66 (30.55%)	$\chi^2 = 33.41$, $p < 0.0001$*
Disturbance of Appetite	55 (55.00%)	51 (23.61%)	$\chi^2 = 30.21$, $p < 0.0001$*
Psychomotor Agitation	40 (40.00%)	63 (29.16%)	ns
Psychomotor Retardation	29 (29.00%)	53 (24.53%)	ns
Tired	40 (40.00%)	37 (17.12%)	$\chi^2 = 19.40$, $p < 0.0001$*
Difficulty Concentrating	42 (42.00%)	52 (24.07%)	$\chi^2 = 10.51$, $p < 0.003$
Difficulty Making Decisions	27 (27.00%)	29 (13.42%)	$\chi^2 = 8.63$, $p < 0.004$
Extreme Guilt	32 (32.00%)	23 (10.64%)	$\chi^2 = 21.67$, $p < 0.0001$*
Suicidal Ideation	54 (54.00%)	105 (48.61%)	ns
Suicidal Attempt	21 (21.00%)	47 (21.75%)	ns
Worry	59 (59.00%)	102 (47.22%)	ns
Anxiety	31 (31.00%)	62 (28.70%)	ns
Hallucination	23 (23.00%)	52 (24.07%)	ns
Delusion	27 (27.00%)	58 (26.85%)	ns
Somatic Complaints	29 (29.00%)	55 (25.46%)	ns
Precipitating Factors	36 (36.00%)	95 (43.98%)	ns
Length of Hospitalization	20.2	13.7	$\chi = 4.64$, $p < 0.0001$*

* Significant even after adjustment (Bonferroni).

each comparison was run at the conservative level of .0002 so that the error rate of all comparisons together was less than the .05 total. Most of the tests run were chi-squares. Fisher exact tests were used instead of chi-squares when cell frequencies were small. The Kruskal-Wallis nonparametric one-way analysis of variance of ranks also was used to compare mean differences when the assumption for one-way analysis of variance did not hold.

Results

About one third of all patients admitted to this inpatient community mental health center suffered from an affective disorder (see Table 1). A classification of the 100 patients revealed an almost equal number of major depressive and bipolar disorders.

In addition to differences in depressive symptomatology, the mean age of the depressed group ($n = 100$) was older, and in addition to utilizing the inpatient facility more frequently, these patients stayed longer than did those in the nondepressed group ($n = 216$).

When the depressed group was subdivided into those with major depressive disorders and those with bipolar disorders, a comparison of the two showed that the bipolar group exhibited greater irritability and more frequent hospitalizations than did those with major depressive disorders. However, greater frequency of depressed mood was found in the latter group.

Patients with major depressive disorders reported significantly more precipitating factors — including death of relatives and problems in the previous year with work, school, finances, marriage or family than did the patients with bipolar disorders. In this inpatient sample, 36% of the subjects with affective disorder had psychotic features.

Symptoms among the two groups (psychotic *v* nonpsychotic) displayed no significant differences in this study.

A comparison of the primary-secondary depressive dichotomy also failed to demonstrate any major differences. The only patient who committed suicide during the study period was a 35-year-old white, divorced mother who had a double diagnosis of major depressive disorder and histrionic personality, and killed herself following an argument with her boyfriend three months after hospital discharge.

Comparison of the aggressive *v* nonaggressive depressed groups revealed more men and alcohol abusers in the aggressive depressed group. This group also exhibited less anhedonia and more irritability.

Discussion

Since community mental health centers are known to be hospitals for the poor, it is not surprising that most of the patients admitted to this community mental health center were from lower socioeconomic groups. Therefore, the data reported here should be interpreted in this context. The findings indicate that affectively disturbed patients were significantly older (38.6 years) than patients without an affective disorder (30.7 years). In addition, depressed subjects were admitted significantly more frequently (3.02 times *v* 2.3) and stayed in the hospital longer than those with nonaffective disorders (20.2 days *v* 13.7, respectively). Hence, patients with affective disorders not only comprised the most inpatient admissions, constituting more than one third of the entire hospital census, but also stayed in the hospital longer. Therefore, it is necessary that clinicians be aware not only of the symptoms of this type of patient but of other characteristics as well.

In this inpatient study, an almost equal number of subjects with major depressive and bipolar disorders was found. However, the potential size of the bipolar group could be even larger, since it is possible that some of those with major depressive disorders would subsequently develop episodes of mania or hypomania. The significantly higher reported frequency of precipitating factors among those with major depressive disorders may indicate that those with nonbipolar depression have had the condition triggered with stressful life events more frequently than have those with bipolar disorder.

A comparison of the aggressive and nonaggressive depressed individuals is of interest. The results suggest that clinical diagnosis in this type of patient is facilitated by closer attention to more irritability, rather than the presence of severely depressed mood or appearance.

Thirty-six percent of the depressed group had definite psychotic features. This is in contrast to a lower previously reported[14] rate (10%) but in agreement with more recent work by Chambers et al[15] and Akiskal.[16] The high frequency of psychotic symptoms is of interest since inattention to patients with psychotic features may easily lead to misdiagnosis and improper treatment. Perhaps for this reason, in contrast to their British colleagues, Americans in the past diagnosed this type of patient as schizophrenic rather than depressed. However, the fact that more than one third of the patients with affective disorder in this study had psychotic manifestations must be kept in mind when considering the differential diagnosis of psychiatric disorders.

One last point we want to make is that treatment of delusional depression,[17] i.e., psychotic depression, responds poorly to tricyclic antidepressant therapy alone, but has a favorable response to a combination of tricyclic antidepressant and antipsychotic (neuroleptic) medications.

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CT Diagnosis of Acute Abdomen in a Young Hemophiliac

A Case Report

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Computed tomography (CT) was used in this young hemophiliac's case to rule out an operative cause for his acute abdominal pain. Use of the CT scan is advocated as a reliable and relatively inexpensive means for evaluating the acute abdomen in patients with bleeding diathesis.

A 23-year-old white man with Hemophilia A (classical hemophilia) was referred to the University of Missouri Hospital and Clinics for evaluation of right-side abdominal pain.

Symptoms began five days earlier as a sharp, crampy discomfort not improved by antacids, eating, or bowel movements. The pain fluctuated from minute to minute. There was an unsuccessful urge to pass flatus. Initially the pain localized generally to the periumbilical area. The patient reported chills.

By the day of admission the pain had worsened and localized to the right lower quadrant of the abdomen. In addition, nausea and one episode of vomiting occurred.

The patient had no complaints referable to the urinary tract. His last bowel movement was the day before admission and was normal. His past medical history was significant only for classical hemophilia with multiple episodes of intra-articular bleeding, usually into the knee joint. The most recent hemarthrosis was six months earlier. He had no history of surgery.

On physical examination, this lanky young man showed signs of some inattention to personal hygiene. He was in moderate distress with a temperature of 37.5°C. The pulse was 80. Respirations were normal. The blood pressure was 178/64. Further findings included left amblyopia, very poor dental hygiene, a bruise over the left pectoral area, and arachnodactyly with hyperextensibility of the digits. The abdomen was flat. Normal bowel sounds were present. The patient's right side was extremely tender to palpation. Rebound tenderness was present on the right side. When examining the left side, release of the palpating hand provoked an intense pain referred to the right side. The obturator, iliopsoas, and Rovsing's signs were all absent. A rectal examination was significant for marked tenderness on the right side. No fluctuant areas were appreciated. The heart and lungs were normal. No costovertebral angle tenderness was elicited.

Laboratory Data

The white blood count was 11,600/μL with a hemoglobin of 16g/dL and hematocrit of 46.3%. His polymorphonuclear leukocyte count was 77% with 4% bands, 14% lymphocytes, and 5% monocytes. Toxic granulation was noted. The urinalysis was negative for blood. The Factor VIII assay initially was less than 1% of normal. After infusion of 3,000 units of Factor

VIII concentrate in the emergency room, the assay climbed to 78% of normal. The platelet count was 232,000/μL. The PT was 11.5 (control 11.4) seconds and APTT 86.7 seconds before the Factor VIII transfusion. After the transfusion, the APTT normalized at 34.1 seconds.

An abdominal radiograph done on admission showed slight distension of both the large and small bowel with no localizing signs. No fecalith was noted. Psoas shadows were indistinct.

Treatment

This young man was admitted with a history suggestive of appendicitis or periappendiceal abscess. Physical findings, primarily the marked tenderness with rebound and referred rebound, as well as the right-sided rectal tenderness, also were consistent with an acute surgical abdomen.

The length of the patient's symptoms (five days) in light of the WBC of 11,600/dL militated against an acute surgical process. These facts, along with the history of classical hemophilia, urged a somewhat circumspect approach to surgery. Other differential diagnoses included a mesenteric hematoma, a retroperitoneal hematoma, and mesenteric adenitis.

Transfusions of Factor VIII concentrate were given on admission, and the patient was observed carefully through the night. He was treated with nasogastric suction and intravenous fluids.

The following morning the patient underwent a computed tomographic (CT) scan of the abdomen (Fig 1). This showed a rather large retroperitoneal hematoma. The area of the appendix looked grossly normal by CT. Over the course of the second hospital day, the patient continued to improve clinically. The peritoneal signs abated gradually. He continued to be treated with Factor VIII transfusions. The patient was discharged on the fourth hospital day completely recovered from his abdominal discomfort.

Comment

Hemostasis depends on a two-pronged defense:[1] (1) platelet plug formation, which occurs first, and (2) the coagulation cascade, which follows. Coagulation derangements in patients with Hemophilia A (classical hemophilia) vary depending on the level of Factor VIII activity. Since platelet function is normal in hemophilia, bleeding may be delayed up to several weeks after an injury.[2] Once started, though, bleeding may persist for an indeterminant period because coagulation is important in maintaining a hemostatic platelet-fibrin plug.

Any organ in the body may become a site of bleeding. Hemarthroses may recur frequently, as can bleeding from mucosal surfaces of the urogenital and gastrointestinal tracts. Hemorrhage following dental extraction is often a problem.

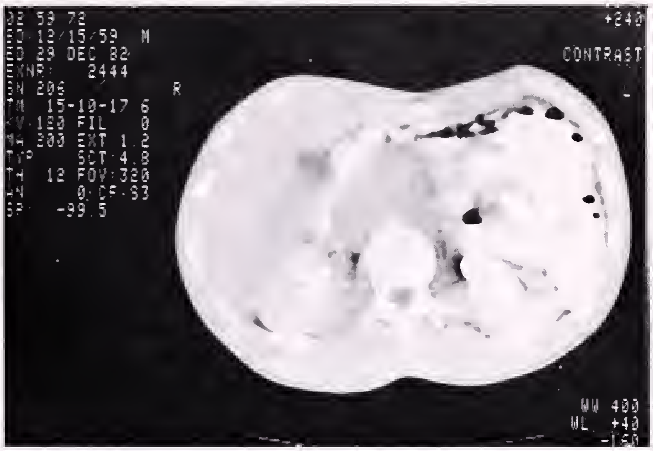

Figure 1. Abdominal CT scan showing right retroperitoneal hematoma.

Retroperitoneal hematomas and mesenteric hematomas are likely to occur spontaneously much more frequently in hemophiliacs than in the normal population. As bleeding may be delayed for days or weeks following a minor injury, the patient may not be able to relate a history of trauma. Retroperitoneal and mesenteric hematomas, even if quite large, are adequately treated medically with Factor VIII transfusions. Large hematomas may be associated with fever, anemia, hyperbilirubinemia, and signs of peritoneal irritation.[3] These signs mimic other processes that require acute surgical intervention and therefore may place the patient at risk for a negative abdominal exploration.

A review of the medical literature does not reveal the incidence of retroperitoneal hematomas among hemophiliacs, nor does it yield reports of the utility of computed tomography in this setting.

This case highlights the dilemma which may confront the clinician in diagnosing a hemophiliac with severe abdominal pain, tenderness, and peritoneal signs. Although no data are available, it seems likely that the cost of abdominal computed tomography is justified in ruling out nonoperative causes of the "acute abdomen" in hemophiliacs and others with bleeding diatheses.

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3. Levine PH: The clinical manifestations and therapy of hemophilias A and B, in Colman RW, et al (eds): *Hemostasis and Thrombosis*. 1982, pp 75-90.

The Authors

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Continuing Medical Education

October

9 **Considerations in Coronary Artery Disease** — Location: St. Louis Holiday Inn Westport. Contact: Anita Herbst, St. Louis University School of Medicine, CME, 1402 S. Grand Blvd., St. Louis 63104. 314-664-9800.

9-11 **Annual Internal Medicine Symposium** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

10-11 **Advanced Trauma Life Support Provider Course** — Location: University of Kansas Medical Center. Contact: Mrs. Jody Scott, Dept. of Surgery, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-6124.

14 **Common Abdominal Emergencies in Infants and Children** — City-Wide Radiology Conference. Location: Mallinckrodt Institute of Radiology. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 S. Kingshighway, St. Louis 63110. 314-362-7100.

16 **Infection Control** — Location: Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

18-19 **Twenty-eighth Annual Physicians Weekend** — Location: UMC School of Medicine Auditorium. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

19 **Black Health Care** — Location: Kansas City Westin Crown Center. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

22-23 **Medicine and Religion: The Supreme Being, the Supreme Court, and the Almighty Dollar** — Location: University of Kansas Medical Center. Contact: Promotion Coordinator, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4488.

24-26 **Advances in Rheumatology Symposium** — Location: UMC School of Medicine Auditorium. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

November

1 **Cardiac Arrhythmias: New Drugs** — Location: Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

4-6 **Organizational Systems** — Location: Kansas City, Missouri. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

6 **Fourth Annual Symposium in Geriatric Medicine: An Update for the Practicing Physician** — Location: St. Louis Holiday Inn Westport. Contact: Anita Herbst, St. Louis University School of Medicine, CME, 1402 S. Grand Blvd., St. Louis 63104. 314-664-9800.

6-8 **Advanced Cardiac Life Support Provider Course** — Location: University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

7-8 **COPD — Insight to Successful Management** — Location: Columbia, Missouri. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

7-9 **Annual Fall Conference** — Location: Kansas City Alameda Plaza Hotel. Contact: Alta L. Bingham, Executive Director, Kansas City Southwest Clinical Society, 2220 Holmes, Kansas City 64108. 816-276-1339.

8 **Advanced Cardiac Life Support Instructor Course** — Location: University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

8 **Dementia** — Location: Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

11 **MR Contrast Agents** — City-Wide Radiology Conference. Location: Mallinckrodt Institute of Radiology. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 S. Kingshighway, St. Louis 63110. 314-362-7100.

11-15 **Certification Exam in Infection Control** — Location: Columbia Holiday Inn West. Contact: Weldon D. Webb, University of Missouri-Columbia, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

14-15 **Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow, Kansas City, KS 66103. 913-588-4480.

15 **Advanced Trauma Life Support Refresher Course** — Location: University of Kansas Medical Center. Contact: Mrs. Jody Scott, Dept. of Surgery, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-6124.

15-17 **Twelfth Annual Symposium: Anesthesia and the Geriatric Patient** — Location:

Washington University School of Medicine. Contact: Geriatric Symposium, Dept. of Anesthesiology, Washington University School of Medicine, 660 S. Euclid Ave., St. Louis 63110.

21 **Provocative Inhalation Challenge and Hyperreactive Upper and Lower Airways** — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, St. Louis 63110. 314-362-6893.

21-22 **Obstetrics and Gynecology for the Primary Physician** — Location: Kansas City Alameda Plaza Hotel. Contact: Christy Snow, Coordinator, University of Missouri-Kansas City School of Medicine, 2220 Holmes, Kansas City 64108. 816-276-1339.

TBA **Pediatric Neurology for the Practicing Physician** — Location: St. Louis University Learning Resources Center. Contact: Anita Herbst, St. Louis University School of Medicine, CME, 1402 S. Grand Blvd., St. Louis 63104. 314-664-9800.

December

4 **Endocrinology and Metabolism** — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

5-7 **The Heart 1985** — Location: Kansas City Alameda Plaza Hotel. Contact: Christy Snow, Coordinator, University of Missouri-Kansas City School of Medicine, 2220 Holmes, Kansas City 64108. 816-276-1339.

9 **Computed Tomography of the Adrenal Glands** — City-Wide Radiology Conference. Location: Mallinckrodt Institute of Radiology. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 S. Kingshighway, St. Louis 63110. 314-362-7100.

19-20 **Advanced Trauma Life Support Provider Course** — Location: University of Kansas Medical Center. Contact: Mrs. Jody Scott, Dept. of Surgery, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-6124.

January

5-10 **Practical Management of Patients with Infectious Disease: A Case-Oriented Approach** — Location: Keystone, Colorado. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis 63110. 314-362-6893.

8-14 **Obstetrics & Gynecology: Practical Aspects in Patient Care** — Location: Maui, Hawaii. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis 63110. 314-362-6893.

10-12 **Pan American North American Course** — Location: Key Biscayne, Florida. Contact: Felix N. Sabates, M.D., Truman Medical Center, 2301 Holmes St., Kansas City 64108. 816-556-3501.

13 **City-Wide Radiology Conference** — Location: St. Louis University. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway, St. Louis 63110. 314-362-7100.

13-15 **Consensus Development Conference on the Health Implications of Smokeless Tobacco Use** — Location: National Institutes of Health, Bethesda, Maryland. Contact: Barbara McChesney, Prospect Associates, Suite 401, 2115 East Jefferson St., Rockville, MD 20852. 301-468-6555.

February

5 **Thermal Illnesses and Acclimatization** — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

5-7 **Sixth National Conference on CAPD** — Location: Kansas City Westin Crown Center. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

7-8 **Midwinter Laser Workshop: Lasers for the Posterior Segment** — Location: St. Louis. Contact: Jeanne B. Toma, Retina Research & Development Foundation, 4949 Barnes Hospital Plaza, East Pavilion, Suite 17413, St. Louis 63310. 314-367-1181.

10 **City-Wide Radiology Conference on "Update on the Treatment of Symptomatic Urolithiasis"** — Location: Mallinckrodt Institute of Radiology, St. Louis. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway, St. Louis 63110. 314-362-7100.

11-12 **Critical Care Symposium** — Location: Columbia, Missouri. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

March

7-8 **Family Practice Update** — Location: UMC Alumni Center. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

7-9 **Organizational Systems** — Location: UMC Memorial Union. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

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Medical School News

The University of Missouri-Columbia

- **Finley P. Gibbs, Ph.D.,** associate professor of anatomy in the University of Missouri-Columbia (UMC) School of Medicine, presented a poster on "Exercise Prevents Gonadal Atrophy in Blind Hamsters" at the 1985 spring meeting of the American Physiological Society in Anaheim, Calif. The poster was co-written by **Larry Petterborg, Ph.D.,** assistant professor of anatomy.

- **Harry Stoeckle, M.D.,** has retired as professor of child health. Dr. Stoeckle, who joined the faculty in 1960, was named professor emeritus.

- **Joseph Walls, M.D.,** assistant professor in the division of cardiothoracic surgery, presented a paper at the Missouri Chapter of the American College of Surgeons meeting on "Protection of Hypertrophied Left Ventricular Myocardium During Elective Ischemic Arrest."

- **Sara E. Walker, M.D.,** associate professor of rheumatology at UMC and chief of rheumatology at Truman Veterans Hospital, has received a Veterans Administration Merit Review of $54,464 for a study of "Responses of TD, TI1 and TI2 Antigens."

- **E. Dale Everett, M.D.,** professor and director of the division of infectious diseases in the Department of Medicine, is co-author of an article on "A Common Manifestation of Intravascular Infections" in a recent issue of ARCHIVES OF PATHOLOGY AND LABORATORY MEDICINE. He also recently presented a grand rounds on "Pyogenic Meningitis" at St. John's Mercy Medical Center in St. Louis and at St. Elizabeth Hospital in Granite City, Ill.

- **Bruce Hamory, M.D.,** associate professor in the division of infectious diseases in the Department of Medicine, attended the Epidemiology 20th Anniversary Graduate Summer Session in Minneapolis.

- Five M4 students have been selected to participate in a new honor program in the division of hematology and medical oncology this school year. The students, who will serve as externs on the medical oncology research service at the University Hospital and Clinics, are **Katherine Kostal** of Clayton; **Tad Krolicki,** St. Louis; **Jeff Cortazzo,** Springfield; **Robert Mudd,** St. Louis; and **Lisa Ovens,** Hermitage.

- **Leonard R. Forte, Ph.D.,** professor of pharmacology, presented a paper on "Effects of Parathyroidectomy on the Renal Adenylate Cyclase and 25-Hydroxyvitamin D3-1-Hydroxylase in Estrogen-Treated Chicks" at the Federation of American Societies for Experimental Biology in Anaheim, Calif. The paper was co-written by **R. P. Breitenbach, Ph.D.,** professor of biological sciences. Dr. Forte also presented a paper on "Adaption of the Kidney During Reproduction: Role of Estrogen in the Regulation of Responsiveness to Parathyroid Hormone" at the June Endocrine Society meeting in Baltimore. **H. V. Biellier, Ph.D.,** and **M. A. Elarouss, Ph.D.** in the UMC Department of Animal Science, were co-authors.

- **Richard A. Finkelstein, Ph.D.,** Professor and chairman of the Department of Microbiology, has been chosen to receive the Chancellor's Award for Outstanding Faculty Research in the Biological Sciences for 1985. Dr. Finkelstein also was invited to present an overview of vaccines against cholera and other diarrheal diseases at the 11th Nobel Conference at Saltsjobade, Stockholm, Sweden.

- **Agnes H. Moon, M.D.,** associate professor of physical medicine and rehabilitation, has been awarded the Physician's Award by the Governor's Committee on Employment of the Handicapped. This annual award is given to a physician making a significant contribution toward improving employment opportunities of disabled individuals.

- **David Dueker, M.D.,** associate professor of ophthalmology, was awarded a three-year grant of $377,574 from the National Eye Institute to study functional and morphologic effects of laser trabeculoplasty. **Lynette Feeney-Burns, Ph.D.,** professor of ophthalmology and biological sciences, is co-principal investigator on this project.

- **James M. A. Weiss, M.D.,** professor and chairman of psychiatry, was elected to a life fellowship in the American Psychiatric Association at the 138th annual meeting in Dallas. Life fellows are selected from association members who have rendered "inspiration and example through continuing significant contributions to their profession in teaching, research, and clinical and community service."

- **Rodman P. Kabrick, Ph.D.,** associate professor of medical psychology in the Department of Psychiatry, retired in August. A member of the faculty since 1957, Kabrick has been active in the study and clinical care of developmentally disabled and multiple handicapped children and adolescents. A diplomate of the American Board of Examiners in Professional Psychology, he has served as a consultant to numerous organizatons and agencies, including Woodhaven Home and Mid-Missouri Mental Health Center.

- **William C. Allen, M.D.,** professor and chief of orthopedic surgery, presented "Role of the Meniscus — Changing Concepts" and "Conservative and Surgical Management of the Injured Throwing Shoulder" at a sports medicine symposium at the UMKC School of Medicine.

- **Robert W. Gaines, M.D.,** associate professor of orthopedic surgery, presented "Use of Mersilene Tapes as a Substitute for Wire in Segmental Spinal Instrumentation for Children" at a Segmental Spinal Instrumentation Study Group Meeting in Dallas and "Spinal Stabilization: Principles and Practice — Insuring Quality" at the American Spinal Injury Association at Atlanta.

- **David Bylund, Ph.D.,** associate professor of pharmacology, has received a $71,915 grant from the National Heart, Lung and Blood Institute for work on "Heterogeneity of Alpha-2 Adrenergic Receptors."

- **Helen Mullen, Ph.D.,** associate professor of immunology and rheumatology in the Department of Medicine, has received a one-year grant of $71,865 from the U.S. Department of Health and Human Services to continue her research of "Suppressor T Cell Regulation of Autoimmune Thyroiditis."

University of Missouri-Kansas City

■ **Robert S. Aks** recently was named UMKC School of Medicine's Director of Administration. Mr. Aks, who most recently was with Menorah Medical Center in Kansas City, received his Master's degree in Public Administration with a concentration in health services administration from UMKC in 1983. He is a 1981 graduate of the University of Nevada-Reno, where he received a Bachelor of Science in Health Education.

■ **Mark Groh,** a senior student at UMKC School of Medicine, is a recipient of a $2,500 Southern Medical Association Research Project Grant. Co-investigators on the project, "Hepatobiliary Scans in Chemically Induced Calculous Cholecystitis in Dogs," are senior **Jeff Dobkin, Tim Schubert, M.D.,** assistant professor of Medicine, and **Sara Yendes Shull, M.D.,** assistant professor of Medicine.

■ Two new faculty members began their duties as docents at the UMKC School of Medicine this summer. **David Bamberger, M.D.,** most recently was a fellow in Infectious Diseases at Veterans Administration Medical Center in Minneapolis, as well as an instructor in Medicine at the University of Minnesota Hospital. He received his medical degree from Baylor College of Medicine in Houston.

Gary Salzman, M.D., a 1980 graduate of UMKC School of Medicine, most recently was a Pulmonary fellow at Truman Medical Center. He did his Internal Medicine residency through Wake Forest University with North Carolina Baptist Hospital and Bowman Gray School of Medicine.

■ **Mickey Woolard** recently joined the staff of UMKC School of Medicine as coordinator of development and alumni affairs. Mr. Woolard, who has been working in the area of development for the past three years with the Schools of Law, Business, and Dentistry at UMKC, will continue his role at the Dental School in addition to his new responsibilities with the School of Medicine.

■ The 100 members of the incoming Year-1 class were brought together for the first time for their orientation June 20. The Class of 1991 was introduced to UMKC and the School of Medicine with a presentation by **Gary Widmar, Ph.D.,** UMKC vice chancellor for Student Affairs, and to their class by **Katherine Smith, M.D.,** School of Medicine assistant dean, who gave a profile of the incoming class. Entertainment included a variety show produced and performed by the new Year-2 students.

St. Louis University

■ **Robert M. Heaney, M.D.,** assistant professor of internal medicine, St. Louis University School of Medicine, has been appointed medical director of the Primary Care Group at St. Louis University Hospitals. In addition to seeing patients, Dr. Heaney will assist in the direction of the house staff training program for the department of internal medicine. He will also supervise the nursing staff and clerical staff of the specialty clinics within the department.

■ **John B. Selhorst, M.D.,** has been named chairman of the department of neurology at St. Louis University School of Medicine.

Dr. Selhorst comes to the medical center from the Medical College of Virginia, Richmond, where he was interim chairman of the department of neurology and professor of the departments of neurology, ophthalmology and the division of neurosurgery.

He is a 1967 graduate of St. Louis University School of Medicine and did his postgraduate training in neurology at Case Western University from 1969-1972. Following a tour of duty at Bethesda Naval Hospital, Dr. Selhorst did a fellowship in neuro-ophthalmology at the University of California, San Francisco. In 1975, he joined the neurology department at the Medical College of Virginia. For the first seven years, he served primarily as a neuro-ophthalmologist. Most recently, he established and co-directed the neurological intensive care unit at the Medical College of Virginia where methods for treating stroke were being developed.

■ **Paul L. Wollenzien, Ph.D.,** assistant professor of biochemistry, St. Louis University School of Medicine, has received a three-year grant for $246,389 from the National Institute of General Medical Sciences of the National Institutes of Health.

He will use the grant to examine ribosomal RNA by biochemical methods that reveal its internal arrangement.

■ **Horace M. Perry, M.D.,** assistant professor of orthopedic surgery and internal medicine, St. Louis University School of Medicine, has been awarded a three-year $192,130 grant from the National Institute of Arthritis, Diabetes, Digestive and Kidney Diseases.

Dr. Perry will study the influence of the parathyroid hormone on the mechanisms of bone absorption.

Washington University

■ **Fred C. Chu, M.D.,** has been named director of pediatric ophthalmology at Washington University School of Medicine in St. Louis.

Chu heads the Children's Eye Care Center, where he is responsible for examining and treating children with visual disorders and "crossed" eyes. He is an assistant professor of ophthalmology and of ophthalmology in pediatrics at the School of Medicine. The Children's Eye Care Center is located in Children's Hospital, a sponsoring institution of the Washington University Medical Center.

■ **Willard B. Walker, M.D.,** has been re-elected for a second year as the part-time representative to the Executive Faculty of Washington University School of Medicine in St. Louis.

He was re-elected by the school's part-time faculty to serve on the council, which is the school's governing body.

■ **Sidney Goldring, M.D.,** professor and head of neurological surgery at Washington University School of Medicine in St. Louis, has completed a year-long term as president of the American Association of Neurological Surgeons.

■ **Arthur W. Toga, Ph.D.,** administrator and director of the Laboratory of Neuro Imaging (LONI) at Washington University School of Medicine in St. Louis, has received a grant from The Whitaker Foundation to support his research on brain function.

The three-year grant totals almost $150,000. Toga plans to visualize changes in brain activity, measuring their relationship to changes in behavior. To do so, he will use autoradiograms, "pictures" of brain metabolism made with x-ray film.

He will analyze the autoradiograms through digital image processing, one of the forms of computer-based analysis for which LONI was established. Digital image processing allows scientists to interpret visual data by transforming them into numbers, which can then be translated into clearer images for further study.

■ A researcher at Washington University School of Medicine in St. Louis has received a $335,000, three-year grant to continue his studies of the relationship between emotions and diabetes.

Funding was awarded by the National Institutes of Health (NIH) to **Patrick J. Lustman, Ph.D.,** an assistant professor of clinical medical psychology in the Department of Psychiatry. The study is an expansion of an earlier NIH-supported study in which Lustman investigated depression in adults with diabetes mellitus.

His new study focuses on the prevalence of emotional disorders in adults with diabetes, and how blood sugar is influenced by emotional conditions. He will also look at how emotional characteristics affect the way patients report symptoms traditionally associated with poor glucose regulation.

■ St. Louisan **Susan C. Marty** has given a $100,000 gift to Washington University School of Medicine in St. Louis to help further research on epidermolysis bullosa (EB), the "thin skin" disease.

Ms. Marty made the donation through a life insurance policy, designating the School of Medicine as owner and the epidermolysis bullosa center as beneficiary. Ms. Marty is the former patient coordinator at the EB center; she resigned in 1984 to spend more time as a volunteer with the EB Foundation, counseling patients and their families and helping raise funds for research. Her husband, **James Waltke,** is president of the foundation.

■ Researchers at Washington University School of Medicine in St. Louis are evaluating the potential of magnetic resonance imaging (MRI) in diagnosing diseases of the breast.

Investigators from the Department of Preventive Medicine and Mallinckrodt Institute of Radiology at the School of Medicine will collaborate on the work. Principal investigator is **John K. Gohagan, Ph.D.,** professor of preventive medicine, radiology, and engineering and applied sciences at Washington University.

Physician's Recognition Awards

Thirty-three MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the month of July 1985.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

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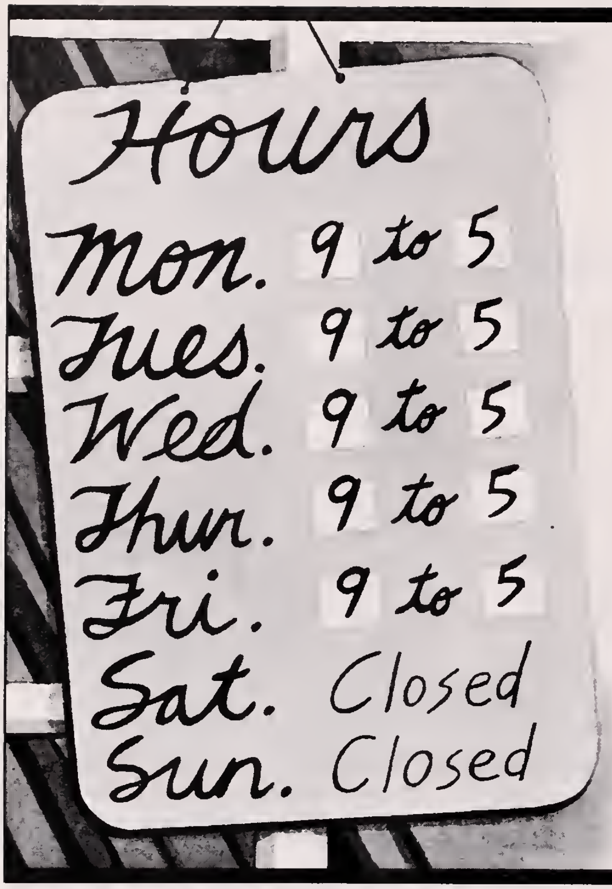

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New Members

■ **Cordie C. Coordes, M.D.,** 224 S. Woods Mill Rd., Chesterfield 63017, has become a member of St. Louis Metropolitan Medical Society. Dr. Coordes received his preliminary education at the University of Chicago and his medical degree at the University of Nebraska in 1976. He completed his residency training at the University of Missouri-Columbia. He specializes in thoracic surgery.

■ **Judith A. Dasovich, M.D.,** Emergency Center, University of Missouri-Columbia, has become a member of Boone County Medical Society. Dr. Dasovich received her preliminary education at the University of Iowa and her medical degree at the University of Iowa in 1981. She completed her residency training at the University of Missouri-Columbia. She specializes in internal medicine.

■ **John A. Duff, M.D.,** Emergency Center, University of Missouri-Columbia, has become a member of Boone County Medical Society. Dr. Duff received his preliminary education at the Southwest Missouri State University and his medical degree at the University of Missouri-Columbia in 1980. He completed his residency training at the University of Missouri-Columbia. He specializes in internal medicine.

■ **John S. Dykstra, D.O.,** Parvin Medical Building, 2001 N.E. Parvin Road, Kansas City 64116, has become a member of Clay-Platte County Medical Society. Dr. Dykstra received his preliminary education at Northeast Missouri State University and his osteopathic degree at Kansas City College of Osteopathic Medicine in 1970. He completed his residency training at Doctor's Hospital, Columbus, Ohio. He specializes in radiology.

■ **William C. Eikermann, M.D.,** Suite 203, 6650 Troost, Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Eikermann received his preliminary education at Emporia State University and his medical degree at the University of Kansas in 1969. He completed his residency training at the University of Kansas Medical Center, Kansas City, Kan. He specializes in psychiatry.

■ **Magdalena S. Garcia-Ferrer, M.D.,** 12577 Royal Manor Dr., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Garcia-Ferrer received her preliminary education at St. Louis University and her medical degree at Universidad Autonoma De Guadalajara in 1980. She is completing her residency training at St. Louis University Hospitals. She specializes in psychiatry.

■ **Lester S. Garfinkel, M.D.,** 3011 Baltimore, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Garfinkel received his preliminary education at Washington University and his medical degree at Washington University in 1959. He completed his residency training at Frazier Rehabilitation Center, Louisville, Ky. He specializes in internal medicine.

■ **Herbert A. Haupt, M.D.,** 3009 N. Ballas Rd., Suite 105, St. Louis 63131, has become a member of St. Louis Metropolitan Medical Society. Dr. Haupt received his preliminary education at the University of Missouri and his medical degree at the University of Missouri-Columbia in 1980. He completed his residency training at North Carolina Baptist Hospital, Winston-Salem, N.C. He specializes in orthopedic surgery.

■ **David L. Hyslop, M.D.,** N406, Division of Infectious Diseases, University of Missouri Hospital & Clinics, Columbia 65212, has become a member of Boone County Medical Society. Dr. Hyslop received his preliminary education at Indiana University and his medical degree at Indiana University in 1978. He completed his residency training at the University of Missouri-Columbia. He specializes in internal medicine.

■ **Peter Konig, M.D.,** Child Health Dept., University of Missouri-Columbia Health Sciences Center, 1 Hospital Dr., Columbia 65212, has become a member of Boone County Medical Society. Dr. Konig received his preliminary education at Hebrew University and his medical degree at Hebrew University in 1964. He completed his residency training at Hadassah Hospital, Jerusalem. He specializes in pediatrics.

■ **William G. Marshall, Jr., M.D.,** Jewish Hospital, 216 S. Kingshighway Blvd., St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Marshall received his preliminary education at Johns Hopkins University and his medical degree at the University of Kentucky in 1977. He completed his residency training at the University of Alabama, Birmingham, Ala. He specializes in general surgery, cardiovascular and thoracic surgery.

■ **Mark R. Mueller, M.D.,** 653 S. New Ballas Rd., St. Louis, has become a member of St. Louis Metropolitan Medical Society. Dr. Mueller received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1983. He is completing his residency training at St. John's Mercy Medical Center, St. Louis. He specializes in family practice.

■ **John T. Oldham, M.D.** 232 South Woods Mill Rd., Chesterfield 63017, has become a member of St. Louis Metropolitan Medical Society. Dr. Oldham received his preliminary education at Washington University and his medical degree at Washington University in 1978. He is completing his residency training at St. Lukes Hospital, St. Louis. He specializes in internal medicine.

■ **Jerome H. O'Neil, Jr.,** 6651 Chippewa, St. Louis has become a member of St. Louis Metropolitan Medical Society. Dr. O'Neil received his preliminary education at the University of Missouri-Columbia and his medical degree at St. Louis University in 1981. He completed his residency training at Baylor College of Medicine Affiliated Hospitals, Waco, Tex. He specializes in pediatrics.

■ **Marshall E. Poger, M.D.,** Charter Hospital, 5535 Delmar, St. Louis 63112, has become a member of St. Louis Metropolitan Medical Society. Dr. Poger received his preliminary education at Washington University in St. Louis and his medical degree at the University of Tennessee in 1969. He completed his residency training at New York University Medical Center. He specializes in anatomic and clinical pathology.

■ **Lynn W. Porter, M.D.,** P. O. Box 877, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Porter received his preliminary education at State University New York and his medical degree at the University of Miami in 1981. He completed his residency training at the University of Tennessee, Memphis. he specializes in anesthesiology.

■ **William G. Quinn, M.D.,** 3205 Lansing Ave., Columbia 65201, has become a member of Boone County Medical Society. Dr. Quinn received his preliminary education at the University of Indiana and his medical degree at the University of Missouri-Columbia in 1972. He completed his residency training at Akron City Hospital. He specializes in orthopaedic surgery.

■ **Ralph D. Reynolds, M.D.,** Ellis Fischel Cancer Center, Business Loop 70 West, Columbia 65203, has become a member of Boone County Medical Society. Dr. Reynolds received his preliminary education at Muskingum College and his medical degree at Ohio State University in 1960. He completed his residency training at Wilford Hall Medical Center, San Antonio, Texas. He specializes in internal medicine and oncology.

■ **Edward F. Schlafly, Jr., M.D.,** 224 South Woods Mill Rd., Chesterfield 63017, has become a member of St. Louis Metropolitan Medical Society. Dr. Schlafly received his preliminary education at Stanford University and his medical degree at Washington University in 1980. He completed his residency training at Barnes Hospital, St. Louis. He specializes in orthopedic surgery.

■ **Frederick N. Shuler, M.D.,** Suite 500, 6724 Troost, Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Shuler received his preliminary education at the University of California and his medical degree at the University of Kansas in 1979. He completed his residency training at the University of Kansas Medical Center, Kansas City, Kan. He specializes in gastroenterology.

■ **Tipu Sultan, M.D.,** 4585 Washington, Florissant 63033, has become a member of St. Louis Metropolitan Medical Society. Dr. Sultan received his preliminary education at Government Degree College and his medical degree at King Edward Medical College in 1969. He completed his residency training at Cook County Hospital, Chicago, Ill. He specializes in pediatrics.

■ **Bradley A. Warady, M.D.,** Children's Mercy Hospital, 24th and Gillham Road, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Warady received his preliminary education at the University of Illinois and his medical degree at University of Illinois, Abraham Lincoln School of Medicine in 1979. He completed his residency at The Children's Mercy Hospital, Kansas City. He specializes in pediatric nephrology.

■ **Robert A. Young, M.D.,** 1388 Willowbrook Cove, St. Louis 63146, has become a member of St. Louis Metropolitan Medical Society. Dr. Young received his preliminary education at the University of Michigan and his medical degree at Ohio State University in 1978. He completed his residency training at Barnes Hospital, St. Louis. He specializes in general surgery and plastic surgery.

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In Memoriam

■ **Joseph A. Costrino, M.D.,** 2425 N. Broadway, St. Louis 63102; graduate of St. Louis University, 1936; member of St. Louis Metropolitan Medical Society; age 75; died July 26, 1985.

■ **William L. Cox, M.D.,** 1212 W. Truman Rd., Independence 64050; graduate of University of Kansas, 1954; member of Jackson County Medical Society; age 60; died July 23, 1985.

■ **Robert M. Crawford, M.D.,** 20 Hughes Ford, Sullivan 63080; graduate of Loma Linda University, 1952; member of Franklin-Gasconade-Warren County Medical Society; age 68; died June 22, 1985.

■ **Hanford Phillips, M.D.,** 13590 S. Outer 40 Road, Suite 156, Chesterfield 63017; graduate of St. Louis University, 1925; member of St. Louis Metropolitan Medical Society; age 84; died July 28, 1985.

■ **Thomas C. St. John, M.D.,** 450 Pasadena Ave., St. Louis 63119; graduate of St. Louis University, 1925; member of St. Louis Metropolitan Medical Society; age 83; died June 30, 1985.

■ **Max Starkloff, M.D.,** 625 S. Skinker, St. Louis 63105; graduate of St. Louis University, 1931; member of St. Louis Metropolitan Medical Society; age 82; died July 2, 1985.

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Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: **Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired.** If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of Dyrenium (triamterene, SK&F CO.) and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (Intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.
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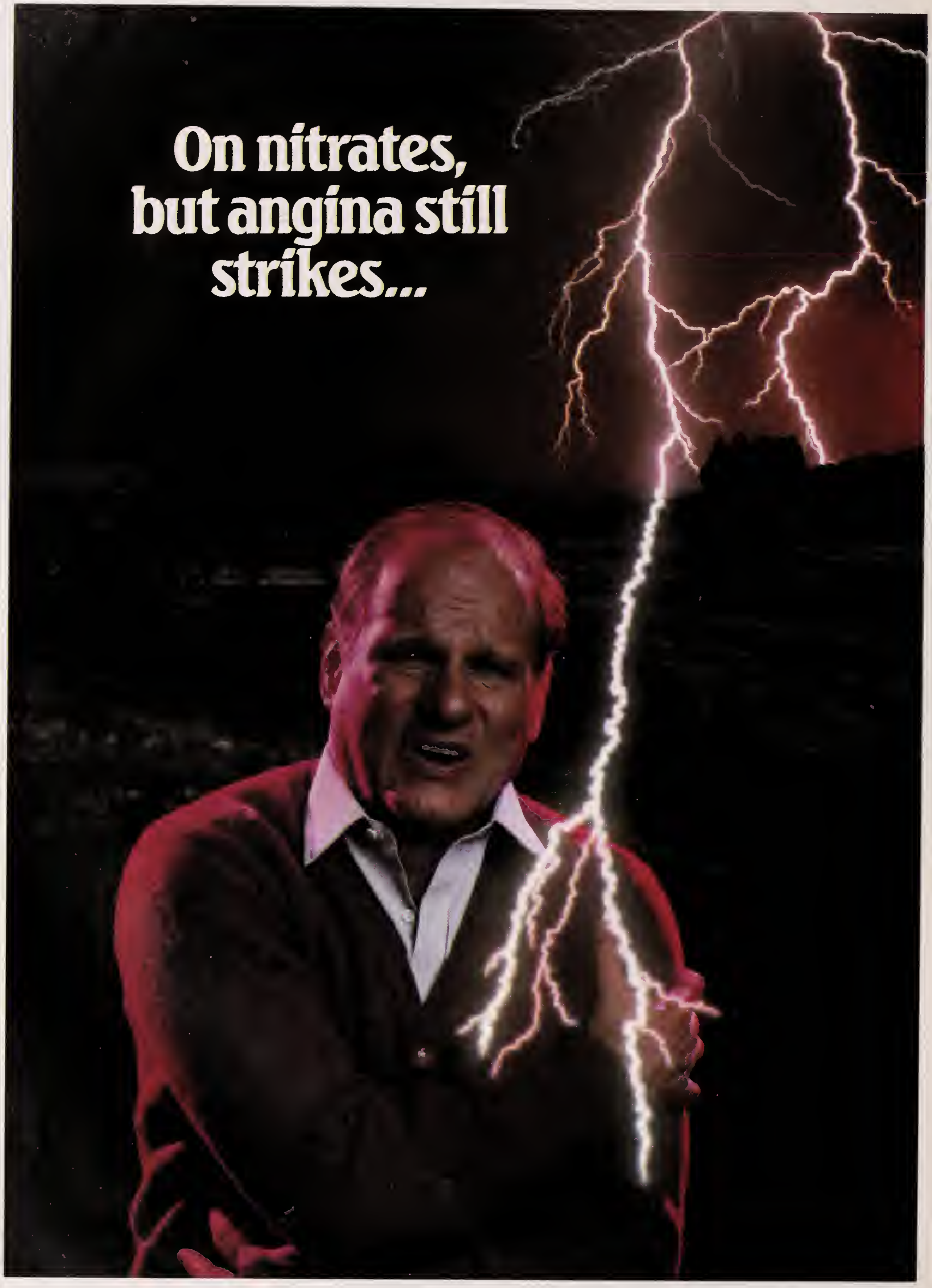
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Contraindications: Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure < 90 mm Hg) or cardiogenic shock, sick sinus syndrome (except in patients with a functioning artificial ventricular pacemaker), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction < 30% or moderate to severe symptoms of cardiac failure) and in patients with any degree of ventricular dysfunction if they are receiving a beta blocker. (See *Precautions.*) Patients with milder ventricular dysfunction should, if possible, be controlled with optimum doses of digitalis and/or diuretics before ISOPTIN is used. (Note interactions with digoxin under *Precautions.*) ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild and controlled by decrease in ISOPTIN dose). Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Such elevations may disappear even with continued treatment; however, four cases of hepatocellular injury by verapamil have been proven by rechallenge. Periodic monitoring of liver function is prudent during verapamil therapy. Patients with atrial flutter or fibrillation and an accessory AV pathway (e.g. W-P-W or L-G-L syndromes) may develop increased antegrade conduction across the aberrant pathway bypassing the AV node, producing a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion, which has been used safely and effectively after ISOPTIN. Because of verapamil's effect on AV conduction and the SA node, 1° AV block and transient bradycardia may occur. High grade block, however, has been infrequently observed. Marked 1° or progressive 2° or 3° AV block requires a dosage reduction or, rarely, discontinuation and institution of appropriate therapy depending upon the clinical situation. Patients with hypertrophic cardiomyopathy (IHSS) received verapamil in doses up to 720 mg/day. It must be appreciated that this group of patients had a serious disease with a high mortality rate and that most were refractory or intolerant to propranolol. A variety of serious adverse effects were seen in this group of patients including sinus bradycardia, 2° AV block, sinus arrest, pulmonary edema and/or severe hypotension. Most adverse effects responded well to dose reduction and only rarely was verapamil discontinued. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacologic effects. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, close surveillance of vital signs and clinical status should be carried out. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patients should be carefully monitored to avoid over- or under-digitalization. ISOPTIN may have an additive effect on lowering blood pressure in patients receiving oral antihypertensive agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Clinical experience with the concomitant use of ISOPTIN and short- and long-acting nitrates suggest beneficial interaction without undesirable drug interactions. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C:* There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block: 3rd degree (0.8%), bradycardia: HR < 50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%), elevations of liver enzymes have been reported. (See *Warnings.*) The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: ecchymosis, bruising, gynecomastia, psychotic symptoms, confusion, paresthesia, insomnia, somnolence, equilibrium disorder, blurred vision, syncope, muscle cramp, shakiness, claudication, hair loss, macules, spotty menstruation. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in round, scored, film-coated tablets containing either 80 mg or 120 mg of verapamil hydrochloride and embossed with "ISOPTIN 80" or "ISOPTIN 120" on one side and with "KNOLL" on the reverse side. Revised August, 1984. 2385

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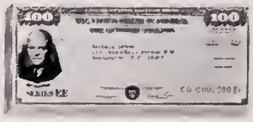

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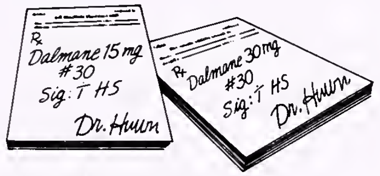

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Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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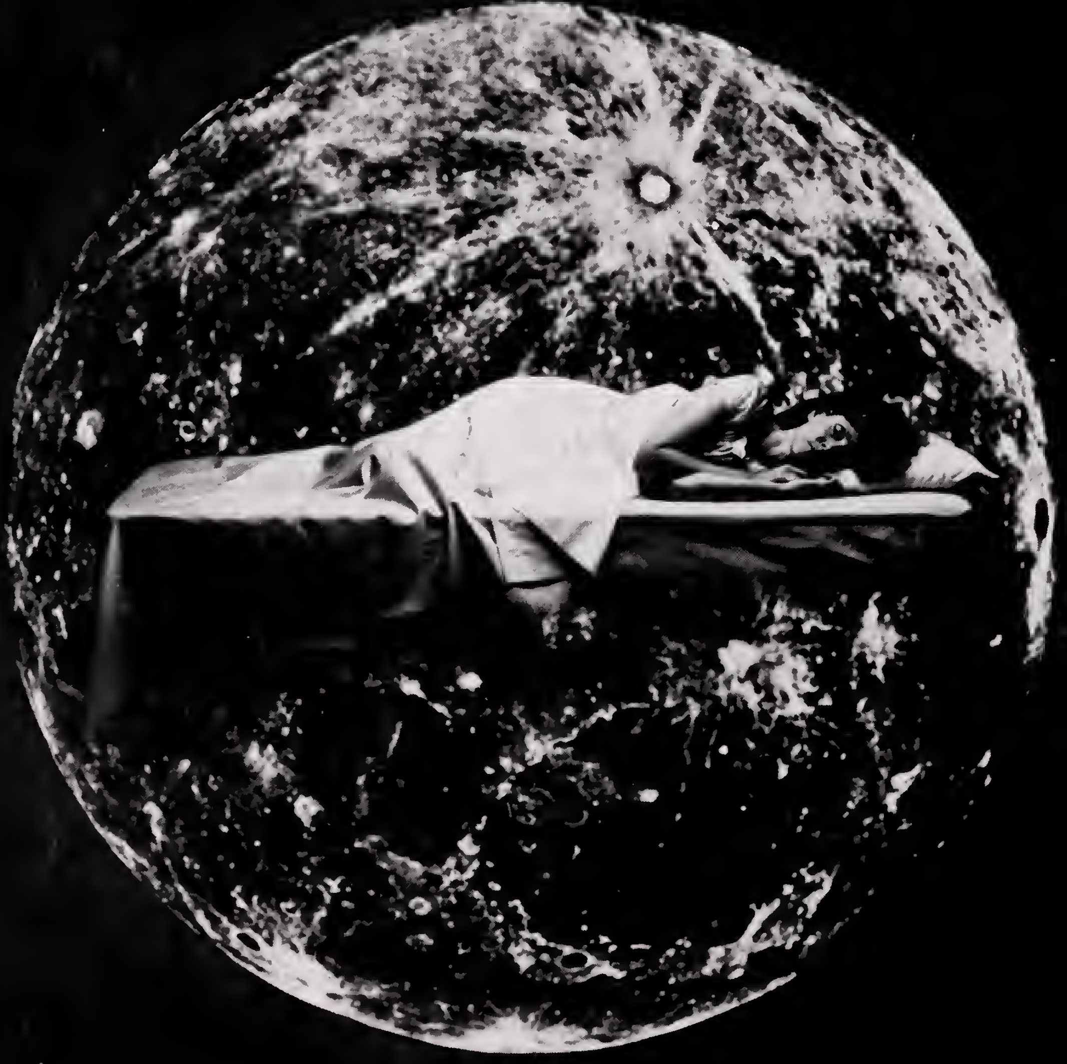

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Missouri Medicine

Journal of the Missouri State Medical Association

November 1985

v.82, no.11

"Eastern Wild Turkey"
David Plank

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Missouri Medicine

Vol. 82, No. 11 *Journal of the Missouri State Medical Association* November 1985

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The Ovid Bell Press, Inc.
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Missouri Medicine (ISSN 0026-6620) is published monthly by the Missouri State Medical Association, P.O. Box 1028, 113 Madison St., Jefferson City, MO 65102.

Subscription rates: $15 per year. Interns and Residents, $7.50 per year.

Second class postage paid at Jefferson City, Missouri and at additional mailing offices.

Postmaster: Send address changes to Missouri State Medical Association, c/o Membership Department, P.O. Box 1028, Jefferson City, MO 65102.

The articles published in *Missouri Medicine* represent the opinions of the authors, and do not necessarily reflect the official policy of the Missouri State Medical Association.

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Cover

"Eastern Wild Turkey," by David Plank, noted Missouri wildlife artist. This watercolor painting was sketched from life near Salem, Missouri, the artist's hometown.

Editor's Note: Last month's artist, John W. Fries, M.D., wishes to acknowledge George Wirth, the photographer who took the slide of Dr. Fries work, "Mission by the Sea."

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Committee formed to coordinate efforts to pass tort reform

The MSMA has joined with a number of other associations and medical insurers to form a committee to coordinate efforts and gain passage of tort reform legislation during the 1986 session of the Missouri General Assembly.

The MSMA will be working alongside of the Missouri Association of Osteopathic Physicians and Surgeons, the Missouri Hospital Association, MOMEDICO, Medical Defense Associates, Missouri Professional Liability Insurance Association and Professional Mutual Insurance. The committee recently hired a coordinator to organize the efforts of the various groups in passing tort reform legislation.

Each organization involved has contributed funds for the ambitious undertaking and has committed further financial support throughout the campaign. Other groups, such as the Missouri State Orthopaedic Association, have also begun contributing.

Members of each organization composing this committee have held two meetings with representatives of the Missouri Association of Trial Attorneys in an effort to find mutually agreeable issues that can be presented to the legislature. At this time, these proposals are still in the discussion stage. Once issues are agreed upon, the committee will coordinate activities of physicians, patients, medical insurers and hospitals in gaining widespread support for medicine's views on malpractice legislation that is introduced in the General Assembly.

In related activities, the MSMA has also been active organizing testimony by physicians to be heard by the Missouri Senate Interim Committee on Medical Malpractice and Product Liability. Many MSMA members have presented testimony alongside of hospital administrators and other health care professionals. Trial attorneys also have been well-represented at the Senate hearings as they have presented testimony urging the legislators to maintain Missouri's status quo in the area of malpractice reform.

The MSMA will continue working closely with the Senate interim committee, urging the committee to develop legislation to introduce in the 1986 General Assembly which will alleviate the current medical malpractice crisis in Missouri. ■

Malpractice insurance climbs up 44.8%

Professional liability premiums have increased by 44.8% in the last two years, according to the AMA Task Force on Professional Liability and Insurance. Even in low-risk specialties, premium increases have been dramatic. General practitioners and physicians practicing internal medicine have experienced premium increases of 31.4% and 32.4%, respectively, since 1982.

Citing the latest information from the AMA Center for Health Policy Research, the task force said the premium costs for many highly specialized physicians now approach one-third of their gross incomes, driving some physicians out of practice and causing others to provide fewer high-risk services.

The level of premiums varies greatly particularly across specialties and locations. Premiums are substantially higher for surgical specialties and obstetrics/gynecology. In 1984, the average obstetrician/gynecologist paid $18,800 — more than 16% of before-tax net income — on insurance premiums alone. In some states, the premiums are much higher. For all physicians across the country, 1984 premiums averaged $8,400 or almost 8% of before-tax net income. ■

Medicare fee freeze extended to Nov. 15

Although the Medicare economic increase for the fee screen year beginning Oct. 1, 1985, is 3.15%, HCFA will be making no adjustments in prevailing fees due to the President signing the Emergency Extension Act of 1985.

Both houses of Congress on September 30 passed legislation extending the existing Medicare reimbursement limitations on all physicians and the fee freeze for "non-participating" physicians for another 45 days (until November 15).

Under differing proposals before Congress, it is likely the full 3.15% increase in prevailing fees will be granted only to physicians who have entered into participating agreements. Because of widely varying provisions contained in three separate reconciliation packages (the Senate version and two House versions) it is uncertain whether physicians who opted out of agreements signed last year or who have just entered into such an agreement for the first time will receive the full increase, or only half, as some bills propose.

Continued

No increases in Medicare reimbursement can become effective until November 15.

Last year, the Medicare economic index rose by 3.34%, but no annual adjustment in Medicare prevailing fee reimbursement was made due to the Medicare reimbursement freeze mandated by the Deficit Reducation Act.

The last increase granted in the prevailing fee level was 5.85% on July 1, 1983. ■

Medicare deductible to rise by 23 percent

On January 1, 1986, Medicare Part A copayments and deductibles will increase a whopping 23%, according to rates published in the Sept. 30, 1985, *Federal Register*.

The increase will jump the current Part A Medicare deductible from $400 per benefit period to $492 next year.

Part B premiums, on the other hand, will remain at $15.50, signaling the first time in the history of the program that the premium has not had an annual increase.

Under Part A, the three types of beneficiary coinsurance also will increase by 23%:

1. Daily coinsurance for hospital inpatient days 61 through 90 will increase from $100 to $123;
2. Daily coinsurance for lifetime reserve days will increase from $200 a day to $246 a day;
3. Daily coinsurance for each of days 21 through 100 of covered skilled nursing facility stays will increase from $50 to $61.50.

Harvard developing physicians' services relative value scale

A relative value scale for physicians' services will be developed by Harvard University under a contract with the Health Care Financing Administration. The contract became effective September 15.

The AMA will be a subcontractor under the proposal, providing advice on the project's overall objectives, directions and research methodology. With the cooperation of national medical specialty societies, the AMA will recruit physicians to be involved in the study. The Association also will analyze and tabulate physicians' practice costs.

HCFA's interest in the project stems from a desire to determine whether fee schedules based on an RVS might provide a workable method for reimbursing physicians under Medicare. ■

Missouri works to eliminate unfit MDs

The Missouri Board of Registration for the Healing Arts revoked or suspended more licenses last year than any other state except California. The board revoked 21 licenses from Missouri physicians last year, only two less than California. Missouri has 9,400 physicians; California has 60,000. Given the total license removals for each state, one such action was taken for every 450 physicians in Missouri, compared with one action for every 2,600 physicians in California.

Between the years 1980 and 1982, Missouri averaged only six physician license revocations per year. Since 1982, however, funding for the Missouri Board of Registration for the Healing Arts has increased, bringing with it a tripling in the number of medical licenses removed. Financing was increased by raising the fees the boards charges physicians for their license. Today, the board has six full-time investigators, double the number it had in 1979.

Although the Missouri State Medical Association has an Impaired Physician Program for physicians to refer impaired colleagues, only 10% of complaints received by the board against physicians are made by health professionals. Forty-three percent of the complaints were made by patients, and 35% of the complaints were made by law enforcement agencies such as the state Bureau of Narcotics and Dangerous Drugs. The other 12% were complaints uncovered by board investigators.

The MSMA Impaired Physician Program is currently seeking its first part-time director of the program and is encouraging more volunteer physicians to serve as "confronters" to confront their colleagues whom they think have a problem. ■

Ray McIntyre, former MSMA head, inducted into college Hall of Fame

Former MSMA executive secretary, Ray McIntyre, recently was inducted into Central Methodist College's Hairston Hall of Fame.

McIntyre joined the MSMA as field secretary in 1942 and in 1965 took over the helm of the organization as MSMA's executive secretary, a position he held until his retirement in 1978.

A member of Central Methodist College's Class of 1932, McIntyre was a four-year member of the "C" Club, earning letters in both football and basketball. He played on CMC's basketball conference championship teams all four years. In addition, McIntyre was quarterback of the football team and captain of the basketball team.

Later, while pursuing his doctorate at the University of Missouri-Columbia, McIntyre continued his interest in basketball, playing on semi-professional and independent teams and officiating at high school games. ■

Some paraplegics using handicap to get drugs illegally

Physicians and pharmacists should be alert to the use of paraplegic patients by "drug dealers" in order to obtain prescriptions for Dilaudid. Recently, the Missouri Bureau of Narcotics and Dangerous Drugs has recorded individuals going to multiple physicians at the same time and traveling throughout the state with regular schedules at different doctors' offices.

Four of these individuals are well-known to law enforcement officials due to the fact that each of them became paraplegic due to gun battles with other drug dealers or law enforcement officials. It is also known that three of these patients do not suffer pain requiring the prescribing of Dilaudid but are using their physical condition to solicit sympathy and Dilaudid prescriptions from physicians.

In Kansas City, one of these patients was shot as he pulled a gun when he was being arrested for selling cocaine. This patient is now receiving Medicaid benefits and has been "locked into" one doctor and one pharmacy after investigations found this patient seeing 14 physicians at the same time obtaining Dilaudid, Ritalin, Talwin NX, Valium, Tylenol and Fiorinal #3 and #4 and numerous other non-controlled drugs.

In St. Louis, a paraplegic was being used by one of the city's largest drug gangs and was being taken to 12 different physicians on a rotating basis. This was discovered when two gang members brought this patient into a pharmacy where two investigators from the Bureau of Narcotics and Dangerous Drugs happened to be inspecting. A telephone call to local police resulted in the arrest of all three individuals.

During September of this year, two more paraplegics were discovered seeing multiple physicians. In Kansas City, one patient who was known to investigators was found seeing physicians in Overland Park, Kansas; Kansas City, Missouri; West Plains, Missouri; Sedalia and Jefferson City, Missouri. In each case the patient used his real name but used a local address, usually a rural route and box number. He would tell the physicians he was in the area staying with friends and needed Dilaudid, as he was away from his regular physician.

In Springfield, Missouri, one "professional patient" confined to a wheelchair was receiving prescriptions for Dilaudid, Percodan, Demerol, Valium, Tylenol and Fiorinal #3, Tylox and Percocet from 15 physicians in Branson, Ash Grove, Mountain View, Seymour, Nixa, Ozark and Springfield. Controlled drug prescriptions were located at 21 different pharmacies for this patient.

Physicians are cautioned to be alert to patients who are unknown to them, who demonstrate behavior associated with drug abuse (requesting Dilaudid), who have insufficient identification or who otherwise behave suspiciously. Request positive identification of the patient and the person or persons assisting the patient. The identification of the vehicle used to transport the patient and the license number of that vehicle can be vital in assisting law enforcement in tracking "professional patients." ■

Medical care prices rise at higher rate

Medical care prices will rise at a slightly higher rate in 1985 than in 1984, the Center for Health Policy Research predicted. The medical care component of the U.S. Consumer Price Index increased 6.9% by July of this year, compared with the 6.7% increase at that time last year. Thus, medical care inflation this year is outpacing the relatively low overall inflation rate of 4.0% for the year to date.

The center attributed the increase in medical care prices to an apparent rise in health insurance premiums. Other components of the CPI, including medical care commodities, hospital rooms, and physician, dental and hospital services, rose at a slower rate during the first six months of this year. ■

Third-party payment a significant part of physicians' incomes

Third-party payment constitutes a significant part of physicians' revenues, the AMA Socioeconomic Monitoring System of the Center for Health Policy Research reported. Medicare and Blue Cross/Blue Shield accounted for 22.7% and 21.2%, respectively, of physician incomes. Other third-party payers' contributions to physicians' incomes are as follows: Medicaid, 9.3%; health maintenance organizations or individual practice associations, 6.1%; and private insurance companies, 20.5%.

The SMS core survey of 4,040 non-federal patient care physicians found that hospital-based specialists, including anesthesiologists, pathologists, and radiologists, derived the largest percentage of their income from Medicare (30%) and Blue Cross/Blue Shield (26.9%). Surgical specialists had the largest percentage of income from private insurance (24.7%). Medical specialists had the largest percentage of income from Medicaid (11.2%) and HMO/IPAs (7.3%). ■

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For Brief Summary, please see following page.

HYDERGINE® LC

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Indications: Symptomatic relief of signs and symptoms of idiopathic decline in mental capacity (i.e., cognitive and interpersonal skills, mood, self-care, apparent motivation) in patients over sixty. It appears that individuals who respond to HYDERGINE therapy are those who would be considered clinically to suffer from some ill-defined process related to aging or to have some underlying dementing condition, such as primary progressive dementia, Alzheimer's dementia, senile onset, or multi-infarct dementia. Before prescribing HYDERGINE® (ergoloid mesylates), the physician should exclude the possibility that signs and symptoms arise from a potentially reversible and treatable condition, particularly delirium and dementiform illness secondary to systemic disease, primary neurological disease, or primary disturbance of mood. Not indicated for acute or chronic psychosis regardless of etiology (see Contraindications).

Use of HYDERGINE therapy should be continually reviewed, since presenting clinical picture may evolve to allow specific diagnosis and specific alternative treatment, and to determine whether any initial benefit persists. Modest but statistically significant changes observed at the end of twelve weeks of therapy include: mental alertness, confusion, recent memory, orientation, emotional lability, self-care, depression, anxiety/fears, cooperation, sociability, appetite, dizziness, fatigue, bothersome(ness), and overall impression of clinical status.

Contraindications: Hypersensitivity to the drug; psychosis, acute or chronic, regardless of etiology.

Precautions: *Because the target symptoms are of unknown etiology, careful diagnosis should be attempted before prescribing HYDERGINE (ergoloid mesylates) preparations.*

Adverse Reactions: Serious side effects have not been found. Some transient nausea and gastric disturbances have been reported, and sublingual irritation with the sublingual tablets.

Dosage and Administration: 1 mg three times daily. Alleviation of symptoms is usually gradual and results may not be observed for 3-4 weeks.

How Supplied: HYDERGINE LC (liquid capsules); 1 mg, oblong, off-white, branded "HYDERGINE LC 1 mg" on one side, "S" other side. Packages of 100 and 500. (Encapsulated by R. P. Scherer, N.A., Clearwater, Florida 33518).

HYDERGINE (ergoloid mesylates) tablets (for oral use); 1 mg, round, white, embossed "HYDERGINE 1" on one side, "S" other side. Packages of 100 and 500.

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Also available: HYDERGINE sublingual tablets; 1 mg, oval, white, embossed "HYDERGINE" on one side, "78-77" other side. Packages of 100 and 1000. 0.5 mg, round, white, embossed "HYDERGINE 0.5" on one side, "S" other side. Packages of 100 and 1000.

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

The patient looks at the doctor as a person who could have a lot to say about his financial as well as his physical health.

Image depends on age of the beholder

Physicians are said to have an image problem, with many sociological factors thought to be involved. In truth, doctors present many images; one determining factor has to be the age of the beholder. Can you remember going to the doctor as a youngster? (Maybe a few oldsters can actually remember the doctor coming to see them.) One writer stated that to him as a child the six most terrifying words in the English language were *"The doctor will see you now."* For the pediatric customer, going in for a medical checkup is a bad scene — strange equipment and smells, nurses and needles, all in addition to being poked here and there. Then the child hears himself discussed in big, poorly understood words by the doctor and a serious looking parent, all a worrysome experience. The child senses there's something important about all of this. Trips to the doctor have to be put down at the bottom of the wish list, along with visits to the dentist.

With adulthood supposedly comes maturity, and a change in doctor-patient relationship. While he is probably still no friend of needles, the layman recognizes the importance of what medical science has to offer him. Concern over what such care is going to cost him, however, now is often foremost in his thinking. The patient looks at the doctor as a person who could have a lot to say about his financial as well as his physical health.

Senior citizens may be more trusting, or more testy, in their perceptions of doctors. Some physicians may be young enough to be their grandchildren. The modern computerized world of medicine is almost beyond comprehension, and the older patient often has to put almost blind faith in what the young doctor says. Fear of life-threatening disease accompanies the geriatric patient to the doctor. The physical changes accompanying old age are pervasive; patients have said that they were glad to learn that a lesion was a skin cancer; at least it wasn't another senile keratosis.

Physicians must be many-faceted individuals, able to present not only a proper attitude but also a depth of personality and understanding to their patients, young and old. No one in medical school ever told us it was going to be easy. ■

Letters to the Editor

Seven days to respond to PRO denial is both capricious and unreasonable

Dear Dr. Burkey,

I'd like to share with you a letter I recently sent to Mohammad N. Akhter, M.D., executive vice president and medical director of the Missouri Patient Care Review Foundation. The letter was written as follows:

Your latest decision to give practicing physicians only seven days to respond to an arbitrary PRO denial before it becomes final is tantamount to larcency. Why don't you just coordinate your letters to correspond to the doctor's vacation or illness?

I am not a lawyer but this is certainly not due process. We practicing physicians render our services in good faith often under difficult circumstances and it is basically a contract with the patient. Your decision to divide your supposed 45 day response time into 38 days for you and seven days for us is so ridiculous as to not warrant comment. Lastly, despite the protestations in your letter, I fail to see the hurry. I have a case on a June 1984 admission that has still not been decided. In the meantime, I have not been paid for my services. Justice delayed is justice denied.

This last action is so arbitrary, capricious and unreasonable as to warrant the wholesale withdrawal of any physician support whatsoever from your program. I think this decision should be reconsidered posthaste; and in the absence of that, I think a motion should be brought before individual medical societies and the Missouri State Medical Association to either challenge this decision legally and/or withdraw any physician cooperation. If you need more time, then get it on the other end. We are already inundated with paperwork and this decision is so unreasonable as to be laughable. Anybody who challenges that conclusion either does not know what he is doing, does not see patients, or does not have to face the mountains of paperwork that we have to climb each and every day.

One of the arguments constantly put forth as to why we should participate and support PRO is that we physicians have some input and that without our input, things could be or would be much worse. Decisions like this make that posture arguable. I would like to posit that with friends like you who make decisions and issue edicts like this — who needs enemies?

Respectfully and seriously,
Edwin J. Masters, M.D.
Sikeston

Letter explaining new seven day rule not received until tenth day

Dear Dr. Burkey,

Following is a copy of a letter I sent to Mohammad Akhter, M.D., executive vice president and medical director of the Missouri Patient Care Review Foundation.

I just received your letter dated August 30, 1985, advising of a reduction in the number of days from 15 to seven that a physician will have to respond to a pending denial before it becomes final by the Missouri PRO.

I find it shocking to read that you are going to reduce an already too short period of time for a response to a pending denial to an unrealistic and completely inadequate period of time. For example, had your letter dated August 30, which was not received and read by me until September 10, been a notification of denial, I would have not been able to respond to it under the seven day deadline because that deadline would have already passed.

Your unrealistic seven days presupposes that the mail delivery is always perfect, that physicians are in the office every day (most surgeons by necessity are not as they frequently spend several days a week at the hospital), and that physicians should never be allowed to take a vacation.

I find it difficult to believe that any responsible person, much less a medical doctor, would presume to impose such an unrealistic deadline. This smacks of arbitrary dictatorial bureaucratic policy with intent to circumvent any reasonable appeal mechanism, and I strongly suggest that this decision be repealed.

Sincerely,
Robert T. Littlejohn, M.D.
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References:

1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

Reduces angina attack frequency*
42% to 46% decrease reported in multicenter study.[1]

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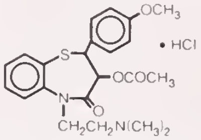

Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect, cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy**—CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

Issued 4/1/84

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PRESIDENT'S PAGE

by Walter German, M.D.

The health care field is rapidly becoming much more united. If this trend continues, the Missouri health care field will, for the first time, present a strong, united front.

Tort reform unites medical community

As the year 1985 continues to pass by, I am noticing a definite change in direction in the Missouri health care scene. For years there has been a polarization of physicians versus hospitals lingering just below the surface of compatibility. Everyone has worried as to the effect of the increased government rules and regulations, such as DRGs, on the hospital-physician relationship. The concern that a deterioration of health care interrelationships may occur has not been realized, but rather, there is a definite trend towards closer and more meaningful relationships between the various members of the health care team. The main underlying reason for this change is the current professional liability (physician and hospital malpractice suits) crisis in Missouri.

Due to the overriding concern of hospitals and physicians toward malpractice, aided by increasing governmental regulations, the health care field is rapidly becoming much more united. If this trend continues, the Missouri health care field will, for the first time, present a strong, united front.

Following the failure in the last legislative session to pass any malpractice bills, there has been a series of meetings involving the executive committees of the Missouri State Medical Association, the Missouri Association of Osteophathic Physicians and surgeons, and the Missouri Hospital Association. Long and deep discussions have ensued, and a common ground has been established. Working together, this committee has developed an omnibus tort reform bill, to be introduced into the next legislative session. These three organizations also have been joined financially and physically by all of the major malpractice insurance carriers in the state of Missouri. Never before in Missouri history has a close, coordinated, combined team been formed from all of the various professional groups. How fine it would be if this spirit of true and honest cooperation would continue after the present fight ends. I firmly believe that it will.

Over the last few months, I personally have had close contacts with the executives of the other organizations and, not surprisingly, their major problems are the same as those which exist in the Missouri State Medical Association. There is exhibited, in fact, a definite trend toward friendship by all parties, and we physicians must all do everything possible to further this cause. You will continue to see example after example of these closer ties as the health care field in Missouri moves as a single unit to fight the battle of professional liability and of increased governmental regulation. ■

Missouri State Medical Association Announces Exciting New 1986 INTRAV Adventure Programs

Missouri State Medical Association and INTRAV are pleased to offer you these outstanding travel programs in 1986. INTRAV will conduct Medical Seminars for Category 1, CME credit on the Spain Discovery and Category 2, CME credit on all other trips, except East Africa.

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Auxiliary Message

by Pattye Barbee
MSMA Auxiliary
AMA-ERF Chairman

Missouri's contribution to the AMA Education and Research Foundation is now more than $30,000.

Holiday sharing cards help fund AMA-ERF

As I sit down to write my second article on behalf of the AMA Education and Research Foundation (AMA-ERF) in as many years, I recall the childhood chant: "Same song, second verse; could get better, but it's gonna get worse." It is the same song, and, except for continuing efforts of both'physicians and auxiliary members, medical schools will face worse times. As I combat age and deterioration with my exercise program, sometimes I feel maintaining the status quo is an improvement; medical school deans must feel the same impasse as they face the spiraling costs needed to maintain the faculty, equipment, facilities, and materials for the projects and programs in their institutions.

Thanks to the generosity of physicians, spouses, and friends of medicine, there are more funds. The foundation distributed $1.6 million this year, an increase of $100,000 over 1984. Of this amount, $1.2 million will be available to deans for discretionary use; the remainder of the funds are restricted to student financial aid. Missouri increased its contribution by almost $4,000, bringing it total contribution to more than $30,000.

The auxiliaries are making a collective effort this year for full participation in the Holiday Sharing Card. This is an uncomplicated way for you to handle the remembrances of the season. With one check, payable to the medical school of your choice, your name is included on a greeting card that is mailed to every physician in your community, and everything is done for you — production, printing, personal hand-addressed envelopes, mailing. In addition, it is tax-deductible because 100% of your gift goes directly to the school that you designate. No fundraising costs are taken from your contribution.

You have the option of restricting your monies for the Medical Student Assistance Fund, so necessary to ensure that medical education does not get placed beyond the reach of students from lower and middle income families, or for the general Excellence Fund, so necessary for maintaining and improving the house of medicine.

What could be easier? What could be more satisfying? Please support this project when you are approached by your local auxiliary. ■

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Part-time Medical Director
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Qualifications

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- training in addictionology

All interested applicants should forward resume to:

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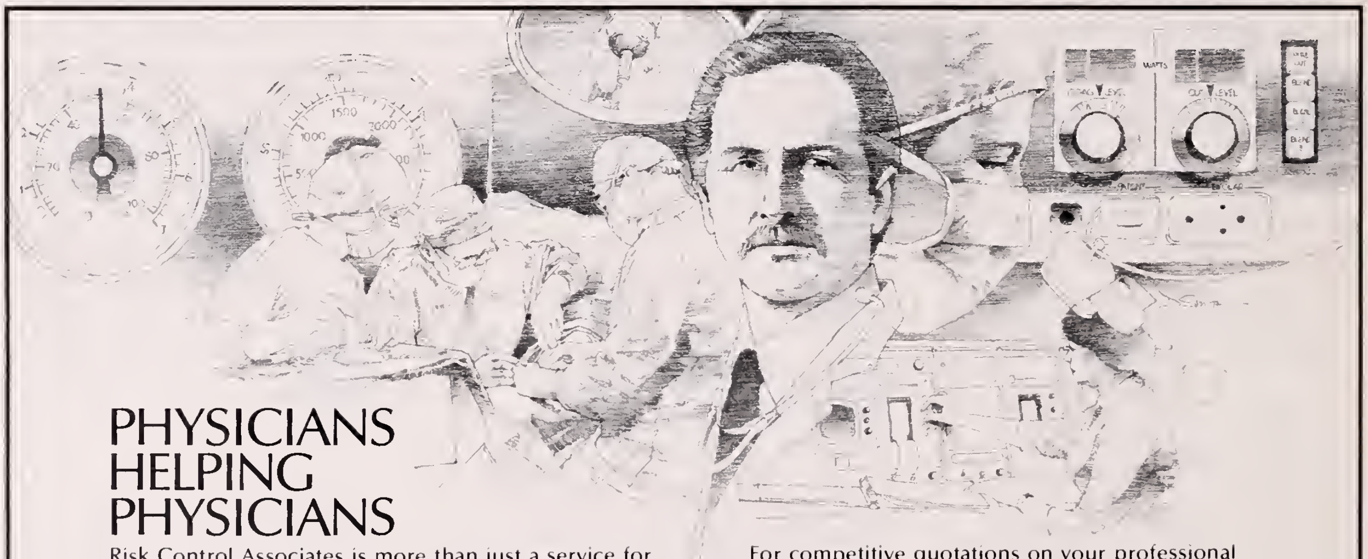

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Special Article

PRO Release of Medical Information

Implications for Missouri Physicians and Hospitals

Mohammad N. Akhter, M.D.

Confidentiality regulations allowing for the release of certain information to the public and setting the procedures for release of information to physicians and hospitals were published in final form April 17, 1985, by the Health Care Financing Administration (HCFA).

Missouri physicians became acutely aware of the issue of peer review confidentiality in September of 1984 when the Missouri Supreme Court ruled that the proceedings of such committees are discoverable in malpractice cases. Through the efforts of the Missouri State Medical Association (MSMA), Missouri legislators passed at the eleventh hour, House Bill 357. This bill, signed into law by Governor John Ashcroft, makes the proceedings of the hospital peer review committee nondiscoverable in malpractice actions.

However, the issue of confidentiality as it relates to Missouri hospitals and physicians is far from settled. The Missouri Patient Care Review Foundation (MPCRF), an organization sponsored by the Missouri State Medical Association and the Missouri Association of Osteopathic Physicians and Surgeons, contracted with HCFA to perform peer review for Medicare patients. Under this contract, and in the performance of its peer review function, the Foundation collects a large amount of data. Most of this information, of course, is confidential and cannot be released to the public. However, there are provisions for release of institution-specific information to the public; and the individual physician, patient, and facility have the right to access this information regarding their own cases.

Dr. Akhter is executive vice president and medical director of the Missouri Patient Care Review Foundation.

Nonconfidential Information

The new regulations require that the Foundation release nonconfidential information in response to a written request from anyone. The information that must be disclosed upon written request is included in Table 1. Disclosure of nonconfidential information by the Foundation requires that all identifiers pertaining to the patient, practitioner, and/or reviewer be deleted and that information must be reviewed by the hospital prior to its release. In addition, it is required that comments made by the hospital be included with the release of such information.

The Foundation has decided to release nonconfidential information only in aggregate form and on a quarterly basis. This will allow for having uniform release of information regarding all hospitals in the state of Missouri at regularly scheduled intervals.

Confidential Information

Confidential information includes any information that ex-

> Physicians who receive denial letters from the PRO and throw them away may be doing themselves a disservice.

Table 1

Data That a PRO Must Disclose
(upon request)

1. Aggregate statistical data, by hospital. For example:
    a. number of discharges
    b. length of stay by DRG
    c. number and types of procedures
    d. age distribution of patients
    e. patient disposition (discharge to SNF, death, etc.)
2. Quality review study information including summaries and conclusions from which the identification of patients, practitioners, and institutions has been deleted
3. Information describing the characteristics of a quality review study, including a study design and methodology
4. Criteria used in patient record review
5. Nonproprietary elements of the PRO's contract with HCFA
6. The PRO's agreements with hospitals and Medicare fiscal intermediaries
7. Routine reports submitted by the PRO to HCFA that do not contain confidential information

plicitly or implicitly identifies an individual patient, practitioner, or reviewer; sanction reports and recommendations; and quality review studies which also include PRO deliberations. Such information only may be released to the federal government or to the state licensing boards and, under limited circumstances, also may be released to state and local public health officials. Table 2 outlines the confidential information that the PRO will not release to anyone in the public.

Confidential information, however, must be released to individual physicians or institutions regarding their own patients. Should a patient or patient's representative request access to the information about the patient, the information will be made available to the patient or patient's representative. Prior to making this information available to the patient or patient's representative, the attending physician will be notified regarding the appropriateness of the direct disclosure of the information at the PRO office to the patient. If the attending physician feels that knowledge of the information could harm the patient, the PRO will disclose the information to the patient's designated representative.

There are also strict limitations on the redisclosure of confidential information; and if anyone who has access to this information releases the information, he or she could be fined and/or imprisoned.

Discussion

Since the publication of these rules on confidentiality by HCFA, the Missouri Patient Care Review Foundation has received a large number of requests for information. Based upon the confidentiality policy and these regulations, the MPCRF is mandated to release all the information identified in Table 1 to the public. The main concern, however, is with the confidential information (Table 2) and its availability to the individual hospital and the physician.

A hospital may, upon written request, receive written information concerning a practitioner or performance pattern of a practitioner in the same hospital. This information could potentially be used by an institution to deny privileges or take other action restricting an individual physician practice. It could also be used to establish special programs for those practitioners who have a continuing problem relating to denials, documentation or quality

Table 2

Data That a PRO Must Not Disclose
(except to DHHS)

1. Practitioner-identified information. For example:
   a. Dr. X's surgical mortality rates
   b. Specific physician's rate of infection
2. Patient-specific information
3. Quality review studies. For example, data regarding:
   a. Infection rates identifying patients or physicians and the results of prophylactic antibiotics and their impact on infection rates
   b. A practitioner's use of ancillary services, such as x-ray, and whether they are in accordance with good medical standards
   c. A practitioner's rate of post-operative complications
   d. Whether hospital personnel are not performing procedures correctly, thus causing adverse patient outcomes
      - catheter care
      - x-ray procedures
      - laboratory studies
   e. Whether hospital personnel are assessing patients correctly and thus starting correct interventions
      - trauma assessment
      - coronary assessment
4. Data which explicitly or implicitly identify an individual may not be disclosed. If a hospital has only one physician in a particular service, information about that service would implicitly identify the physician and would not be disclosable.

of care issues. In either case, a hospital would be in a much stronger position with this information to confront its physicians. Therefore, it becomes important for such physicians to be aware of the information that the PRO may have regarding his or her practice. This is particularly important for those physicians who work in training programs where there are residents who may take care of the patient but sign the attending physician's name on the chart and for those physicians who work in multiple group practices where someone else's patient may be admitted under their name. One must look at this information periodically and try to correct it if there are any deficiencies.

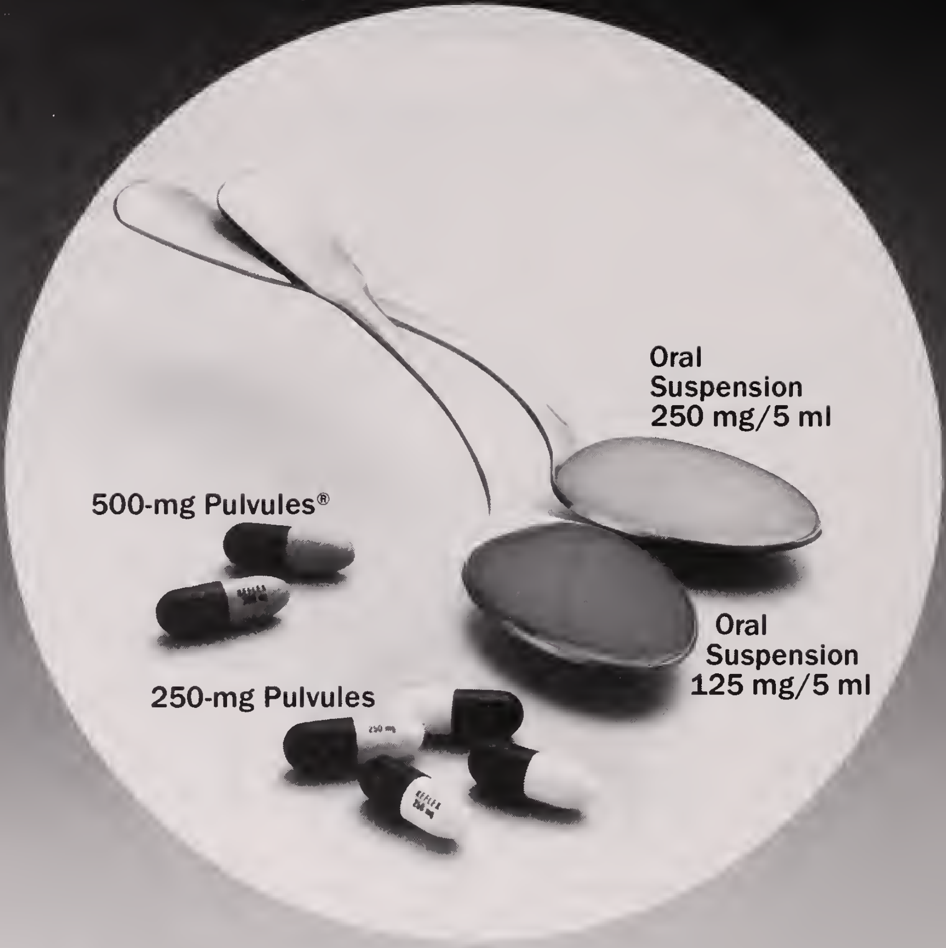
The MPCRF looks at this information somewhat as the credit bureau would look at the financial records of an individual. If those records are good, one's credit is good. Similarly, if the PRO information reflects favorably on a given practitioner, it is unlikely there will be any negative ramifications for that physician. If the information is unfavorable, it could lead to problems for both the hospital and the practitioner. Under the regulations and the confidentiality policy of the Foundation, the confidential information is also available to HCFA and to licensing boards for the purpose of monitoring and for any other purpose the federal government may see fit. Therefore, the accuracy of such information may become critical. The federal government may want to use this information either to deny participation in the Medicare program by certain practitioners or certain institutions and/or to bring sanctions against the institution or the practitioner. Again, the accuracy of information is of utmost importance.

Physicians who receive denial letters or quality letters from the PRO and throw them in the wastepaper basket or fail to respond to them may be doing themselves a disservice. All this information is collected and is kept at the PRO office and could be used against a practitioner who has not been diligent in taking care of quality problems or who has been excessively abusing health care services by providing services to Medicare patients in the most expensive setting.

Release of nonconfidential information creates a different kind of problem for institutions. It will provide comparative rates for such things as denials, length of stays by DRG and the number and types of infections. However, it is difficult for even an educated consumer to compare two institutions to see which one is providing better services. This poses a great opportunity for variable interpretations of the same data. Institutions and physicians will need to spend a considerable amount of effort in public relations to help assure the information published by the Missouri Patient Care Review Foundation under federal mandate is not misinterpreted.

The Foundation Board, which consists of Missouri practicing physicians, is very concerned about this entire issue of confidentiality. The board has directed the staff to make sure that the information that is gathered, analyzed, and distributed is accurate and has the appropriate input by the facilities prior to its release. The Foundation will also make sure that every time a request for information is received by a third organization, that a copy is mailed to the appropriate facility. No one knows how this information will be utilized, but it is important for us all to work together to assure that the information is used not for the purpose of false advertising, financial gain, or facilitating inappropriate competition among facilities but for the purpose of improving the medical review system. ■

Easy To Take



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The Radiology of the Talus

Ray Cope, M.D.
Columbia, Missouri

Fractures of the talus are associated with a relatively high rate of complications. This radiologic review of trauma to the talus points out a number of injuries of which the clinician should be aware when evaluating trauma to the area.

The talus supports and distributes the bodily forces above it and allows motion between the tibia and the foot. It also forms articulations with the calcaneus inferiorly, the navicular anteriorly, and the subtalar joint.[1] The radiology of the talus is essentially concerned with trauma to that bone and may be conveniently considered under the following headings:

1) *Marginal, chip or avulsion fractures* represent the most common form of trauma.[2] They are most frequent on the anterosuperior surface of the neck, where the capsule of the ankle joint is attached.[3] Other aspects of the body can be involved, such as the marginal fracture of the inferolateral part of the body (Fig. 1) sustained by an 18-year-old man who fell from a ladder.

2) *Fractures of the neck* comprise about one third of all talar fractures.[4] The principal causes are motor vehicle accidents, falls from a height and sports-related injuries. Invariably, these pathomechanics result in a hyperdorsiflexion force acting on the talus. Direct trauma is another cause.[5] Once this fracture is recognized, it is essential to exclude an associated dislocation.[3] Complications are common, the most formidable being avascular necrosis.[6] A fracture of the neck of the talus, occurring in a 37-year-old man who had been involved in an automobile accident, is illustrated (Fig. 2).

3) *Fractures of the body* are much less common and have a particularly high complication rate, especially of avascular necrosis and post-traumatic arthritis of both ankle and subtalar joints.[7]

4) *Subtalar dislocation* implies a simultaneous dislocation at both the subtalar and talonavicular joints, with the talus remaining in a normal position within the ankle mortice. The talus is the only bone in the lower extremity without muscle attachments and so dislocations are not uncommon. In fact, they are more frequent than was thought and account for 1.3% of all traumatic dislocations. Medial dislocation, produced by forceful inversion of the foot and a common basketball injury, is more common than lateral dislocation, caused by forceful eversion. In practice, a whole range

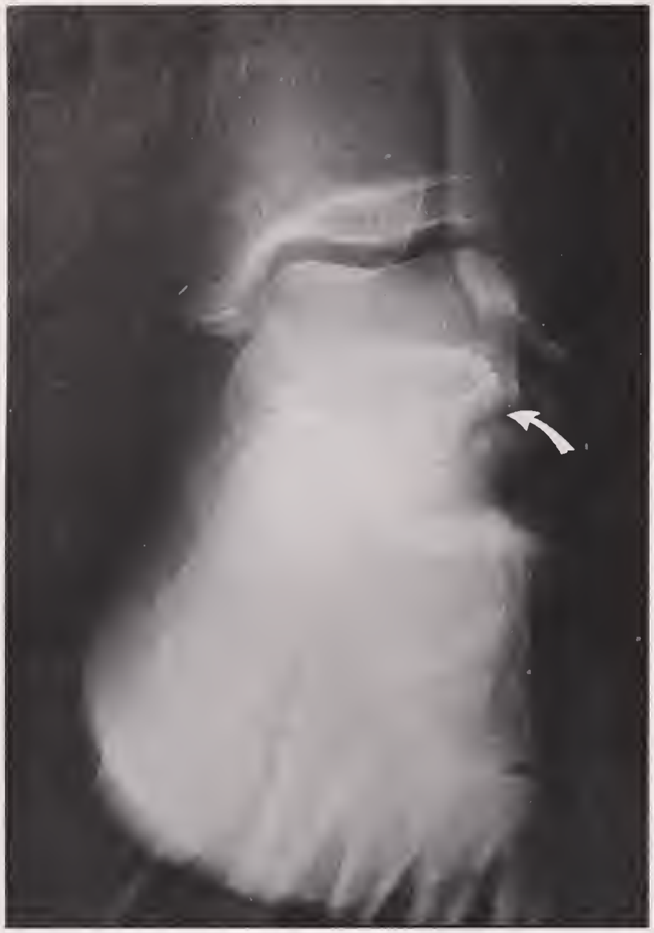

Figure 1. A.P. film of ankle, showing a marginal fracture (arrow) involving the inferolateral portion of the body of the talus.

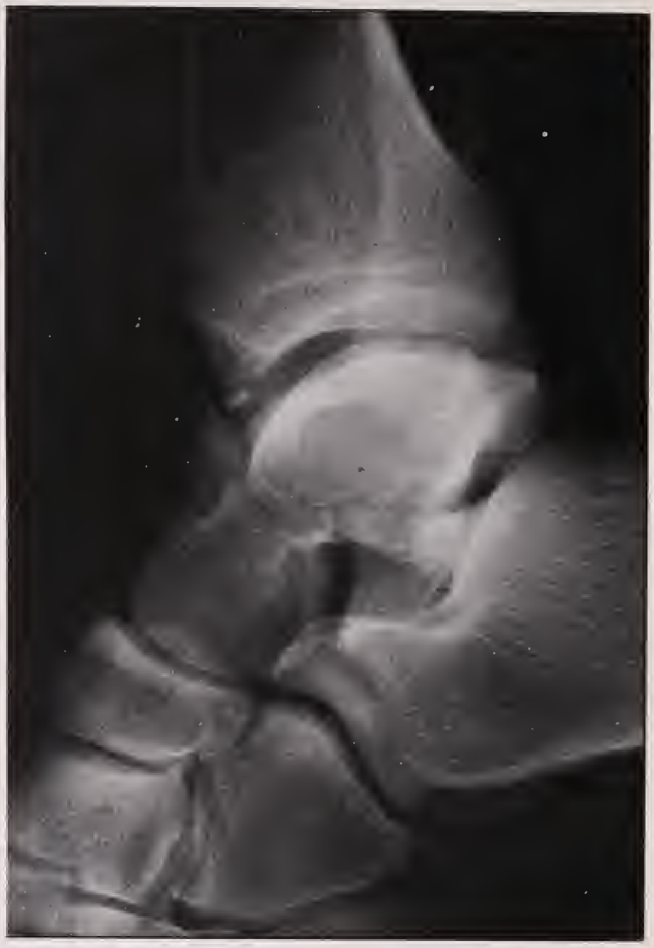

Figure 2. Lateral film of ankle and midfoot. There is a fracture through the neck of the talus, with the talar head occupying an abnormally superior position. Above the fracture site superiorly, a definite "step" can be seen as well as a small bony fragment.

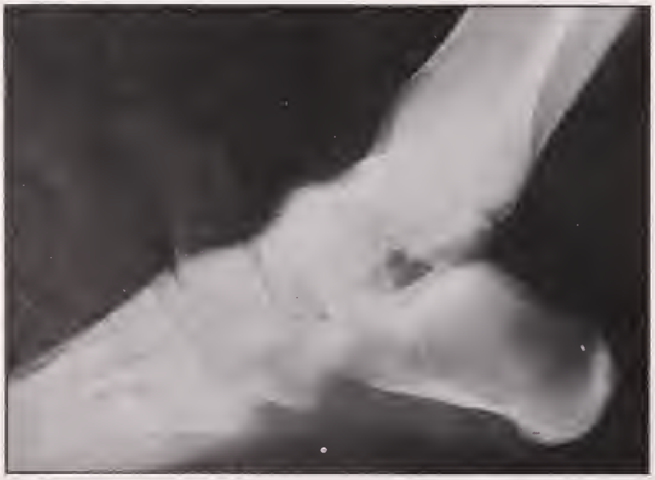

Figure 3. Lateral view of ankle and foot. The head of the talus is superior to the forefoot. There is a gross incongruity between the inferior border of the talus and the anterosuperior aspect of the calcaneus. Note that the calcaneocuboid relationship remains normal.

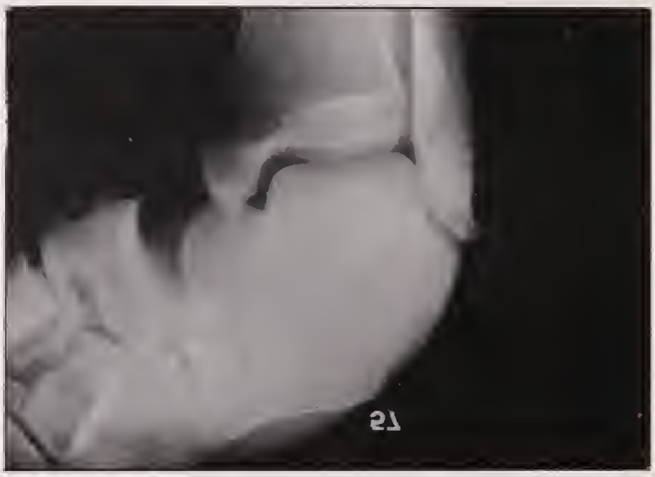

Figure 3B. A.P. view of ankle and midfoot. Both the calcaneus and the entire forefoot are displaced medially in relation to the talus. The talonavicular joint is widely dislocated and the navicular is grossly displaced medially with respect to the head of the talus. Note that the talus is in its normal anatomical position in the ankle joint.

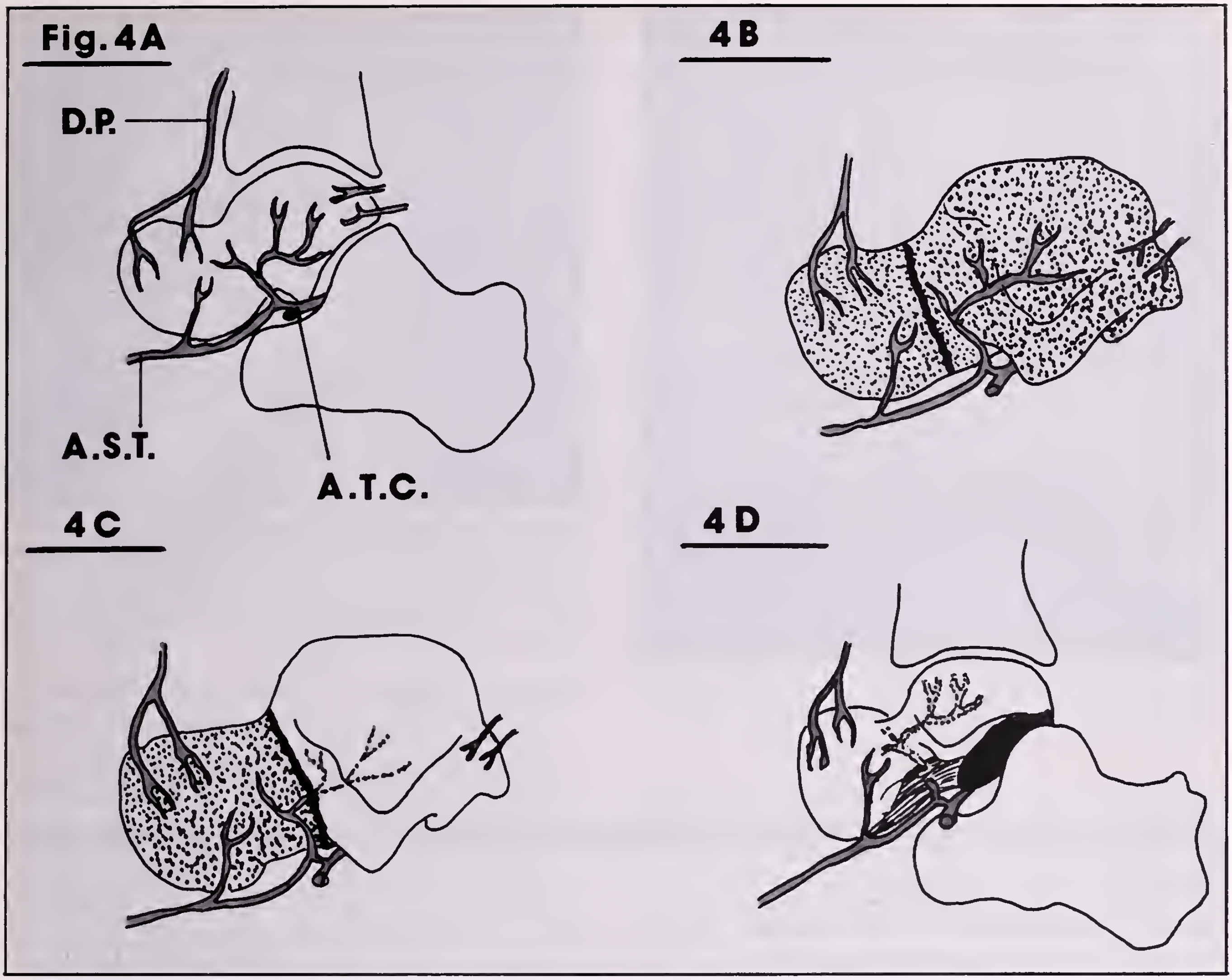

Figure 4A. The blood supply of the talus is illustrated. The posterior tibial artery, having given off small branches to the posterior tubercle, then makes its major contribution via the artery of the tarsal canal (A.T.C.), which enters the midbody.

The anterior tibial artery gives off branches to the superior surface of the neck after becoming the dorsalis pedis (D.P.). It then makes its principal donation to the vascular supply by means of the artery of the sinus tarsi (A.S.T.), which anastomoses with the A.T.C. Hence the head of the talus is supplied by the D.P. and by branches of the A.S.T., while the body receives its main vascular supply from the A.T.C., after it has anastomosed with the A.S.T.

Figure 4B. This diagram shows a fracture through the neck of the talus, occurring anterior to the entrance of the A.T.C. into the body. Hence both fragments are well supplied with blood.

Figure 4C. Diagrammatic representation of a fracture running posterior to the entrance of the A.T.C. into the talus. Hence the major blood supply to the body is interrupted, with predisposition to avascular necrosis.

Figure 4D. This sketch illustrates a subtalar dislocation. This can lead to rupture of the A.T.C. and again lead to interruption of the vascular supply to the body of the talus, with the risks of avascular necrosis once again.

of subtalar dislocations are encountered.[8, 9]

The clinical clue to subtalar dislocation is a persistent inversion of the foot. The radiological equivalent of this is some degree of incongruity of the subtalar joint on the lateral radiograph, with medial displacement of the calcaneus on the frontal view of the ankle[3] (Figs. 3A and 3B).

5) *Avascular necrosis* is an important complication of many forms of talar trauma. The blood supply to the talus is tenuous.[3] The single main arterial supply to the body is from the artery of the tarsal canal (A.T.C.), arising from the posterior tibial artery. The dorsalis pedis makes its major contribution via the artery of the sinus tarsi (A.S.T.) which supplies the talar head and then anastomoses with the A.T.C. (Fig. 4A). The blood supply has been described in more detail.[10]

Fractures of the neck of the talus (Fig. 4C) and subtalar dislocations (Fig. 4D) can both interrupt the major vascular supply to the body, leading to avascular necrosis in some 50% of the cases. Associated ankle

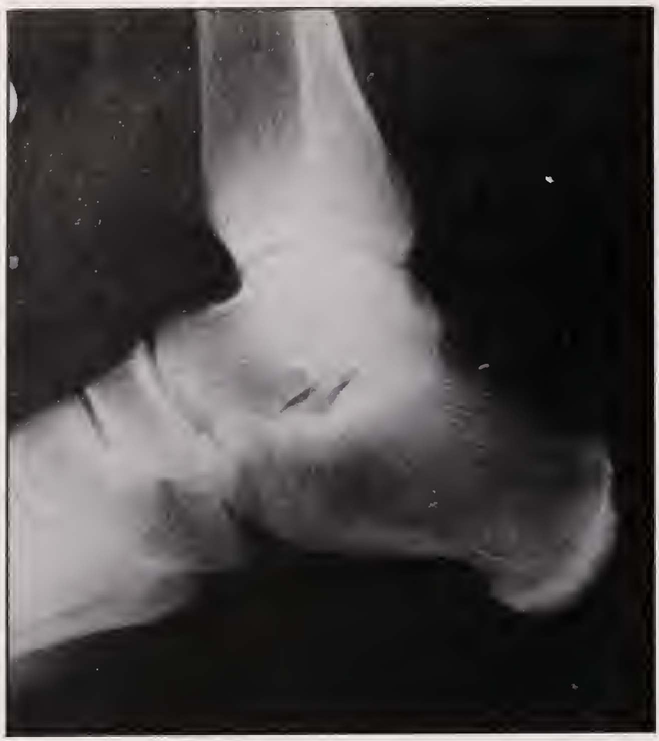

Figure 5. Lateral film of the ankle and midfoot, showing marked sclerosis in the body of the talus, representing the changes of avascular necrosis.

dislocations further compromise the minor blood supply to the body, giving rates of avascular necrosis approaching 100%.[2, 11] A 42-year-old man was still complaining of ankle pain, some 12 months after a minor injury that was diagnosed as a sprain. There was clearly avascular necrosis of the talar body (Fig. 5), similar to the diagrammatic representation (Fig. 4C).

6) *Osteonecrosis or Osteochondritis dissecans* has a somewhat controversial etiology. It is usually said to be either an osteochondral fracture or localized vascular damage leading to the separation of an osteochondral fragment.[12] This fragment is frequently poorly seen on routine radiographic views and computed tomography is often required for optimal visualization.[13]

A 30-year-old man, with a previous history of ankle trauma, had an ill-defined abnormality involving the medial aspect of the upper surface of the talus. Tomography revealed a defect with osteochondral fragments lying peripherally (Fig. 6), an appearance typical of osteonecrosis.

The talus is the second most common site of fracture in the tarsus. Avascular necrosis is a frequent complication of such fractures, which are often intraarticular and have a high propensity for posttraumatic arthritis.[3] It is clear that trauma to the talus is a quite frequent event, carrying with it a potential for serious long-term disability, thereby necessitating a high standard of diagnosis and management.

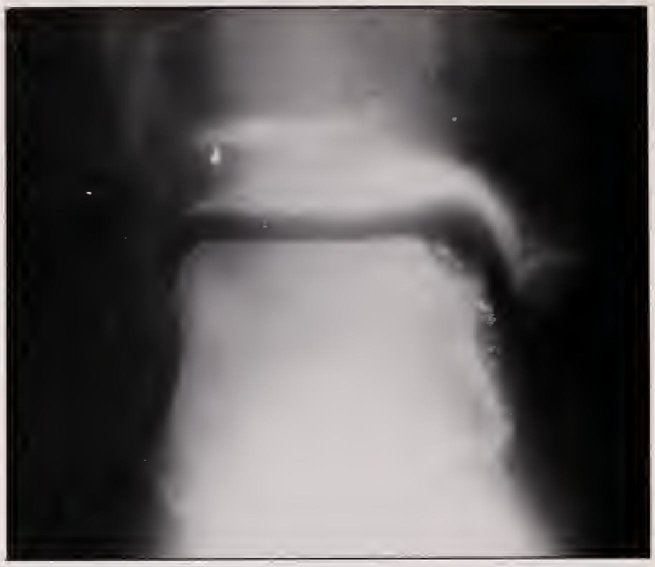

Figure 6. Tomographic cut through the ankle in the A.P. plane, clearly illustrating a cup-shaped defect with slightly sclerotic margins at the medial corner of the dome of the talus. Two small osteochondral fragments can be seen lying within the osseous defect. The margins of the ankle joint are otherwise normal.

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The author is grateful to Marion C. Harper, M.D., for permission to include several of his patients in this paper and for his helpful criticism.

Reprints

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Coronary Angioplasty for the Treatment of Acute Myocardial Infarction

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Patients at a community hospital were prospectively studied following coronary angioplasty as treatment for myocardial infarction. The author reports a success rate of 93% in his series of 42 patients, and advocates the technique on the basis of shortened hospital stay, lower rate of early reocclusion, higher rate of reperfusion, and resolution of underlying stenosis.

There is growing interest in coronary reperfusion for the treatment of myocardial infarction. There is also continued debate over the methods of coronary reperfusion and their efficacy as these forms of therapy add to the cost and number of procedures patients undergo during rehabilitation. While intravenous administration of thrombolytic agents provides earlier intervention, it does not shorten hospital stay nor decrease subsequent procedures, and is perhaps less successful for reperfusion. Cao et al recently reported in this journal their results with intracoronary streptokinase in the treatment of acute myocardial infarction in a community-based hospital.[1]

Intracoronary streptokinase alone usually leaves a significant residual stenosis after successful recanalization, which can result in reocclusion at any time after the procedure. This unstable stenosis requires yet another procedure later, such as revascularization by angioplasty or surgery. Surgery or angioplasty in the immediate post-streptokinase period carries the risk of serious hemorrhage and delays rehabilitation as well.

Reported here are the results of a prospective study utilizing acute coronary angioplasty in the treatment of acute myocardial infarction in a community-based hospital practice. The procedure offers less expense by decreasing the number of subsequent procedures, a higher success rate of reperfusion, earlier reperfusion than with intracoronary streptokinase alone, and shorter hospital stay.

Methods

Patient selection. Patients were considered candidates for reperfusion therapy if they fulfilled criteria for an acute syndrome characterized by continuing pain and electrocardiographic changes indicating acute

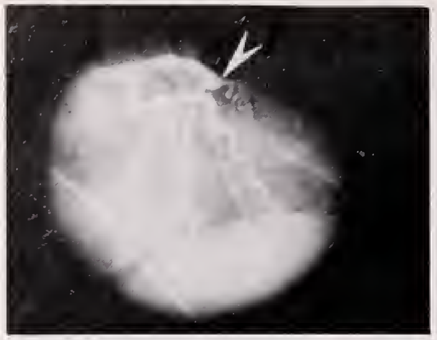

Figure 1. The arrow points to an occluded left anterior descending coronary artery. The abrupt occlusion without tapering suggests fresh thrombus.

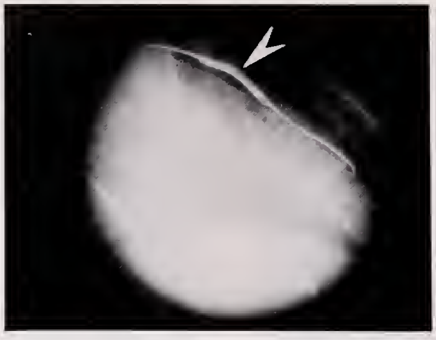

Figure 2. The arrow points to the inflated balloon in the site of prior occlusion.

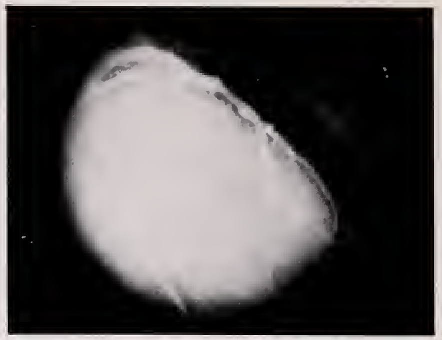

Figure 3. Flow is restored to the occluded left anterior descending with irregularity remaining at the site of prior occlusion.

myocardial necrosis. The presence of Q waves electrocardiographically did not exclude patients from intervention. Patients who had received intracoronary or intravenous streptokinase were included in this study only if the coronary artery remained occluded at the time of angioplasty. Patients were included in this study if they had received streptokinase for the lysis of mural thrombus subsequent to successful reperfusion by coronary angioplasty. Patients with subtotal occlusion before angioplasty (critical stenosis at the time of angiography without visualization of the distal coronary artery) were included only if they had not previously received intravenous or intracoronary streptokinase.

All patients had baseline measurements of protime, partial thromboplastin time, platelet count, electrolytes, creatinine, and hemoglobin taken, as well as ECGs, and chest roentgenograms prior to the procedure. Pulmonary edema, cardiogenic shock, heart block, and bleeding diathesis were not contraindications to the procedure.

Materials and methods. Between October 15, 1983, and December 31, 1984, 42 consecutive patients fulfilled the criteria as candidates for acute coronary angioplasty for acute myocardial infarction. There were 13 women and 29 men. All procedures were performed with Judkins catheters from the femoral approach. Temporary pacemakers were used only in the event of significant bradycardia unresponsive to atropine. Successful recanalization with angioplasty was either accomplished within 30 minutes of the start of the procedure or the procedure was considered unsuccessful and streptokinase was administered. Streptokinase was infused at a rate of 4,000 units/minute. The infusion was terminated if there were hemorrhagic complications, symptoms of ischemia resolved, or residual thrombus was lysed. Ventriculography was performed at the completion of the procedures when dosage limits of contrast media allowed. All procedures were performed using steerable systems, and no balloon was passed into the vessel until the obstruction and distal vessel were negotiated with the guiding wire. Care was taken not to withdraw the balloon until antegrade flow was established to avoid thromboembolism into the aorta. Patients received 10,000 units of heparin before or at the start of the procedure as well as a prophylactic infusion of lidocaine. The first 12 patients received infusions of low molecular weight dextran. Patients were heparinized for at least 12 hours after the procedure and maintained on calcium channel blockers and nitrates as tolerated. The length of hospital stay was compared with patients who received streptokinase alone in the treatment of myocardial infarction. These patients in the comparison group were not part of a randomized or control group but represent patients who underwent treatment during the same time frame with an invasive, interventional form of therapy for myocardial infarction. This group of patients consisted of 23 women and 113 men who ranged in age from 38 to 79 years and who were not referred for coronary bypass surgery after streptokinase therapy.

Results

Listed in Table 1 are the angiographic and clinical results. There were 13 women and 29 men. The age range was 42-80 years, with a mean of 60 years. There was moderate or severe disease in only the occluded vessel in 20 patients, the occluded plus another major trunk in nine patients, and all three trunks in 10 patients. Eight of the 42 patients (19%) had subtotal occlusion of the vessel responsible for the infarction. No patients had left main coronary artery disease. Five patients received intravenous streptokinase prior to, or at the start of the procedure as part of an attempt to bind circulating antibodies prior to intracoronary streptokinase administration.

Coronary angioplasty successfully recanalized vessels in 39 of the 42 patients for an overall success rate of 93%. Patient 4 suffered upper gastiontestinal bleeding after intravenous streptokinase therapy and therefore did not receive heparin. Three patients received intracoronary streptokinase after successful reperfusion by angioplasty in order to lyse residual mural thrombus. There was no detectable distal embolization in this series and no patient required emergency surgery. Angioplasty of noninfarct vessels was performed in only two patients (37 and 38) because they were felt to be poor surgical candidates due to age.

The one death in this series was of a patient taken to the catheterization laboratory while in pulmonary

Table 1

Patient Number	Age	Sex	Lesion	Streptokinase	Success	Days in Hospital	Occlusion	Stenosis Remaining	Number Diseased Vessels	Complications
1	61	F	RCA	250,000 IC	no	10	total	100%	2	VF
2	62	M	RCA	120,000 IC	yes	9	total	irreg	2	
3	54	M	LAD	250,000 IV 360,000	yes IC	10	total	irreg	1	
4	52	M	CABG-LAD	250,000 IV	yes	6	total	irreg	3	GI bleed
5	59	F	RCA	100,000 IV 120,000 IC	yes	3	total	irreg	1	
6	69	M	LAD	none	yes	7	total	irreg	2	
7	42	M	LCx	none	yes	6	total	20-30%	1	
8	59	M	LAD	none	yes	5	total	irreg	1	CV collapse
9	69	M	RCA	none	yes	6	subtotal	20-30%	1	
10	66	M	LAD-CABG	none	no	4	total	100%	3	died
11	43	M	LAD	none	yes	3	total	irreg	1	
12	43	M	LAD-Diag	240,000 IC	yes	6	total	irreg	1	
13	54	M	LCx	none	yes	6	total	irreg	1	
14	64	M	RCA	none	yes	6	total	irreg	1	
15	69	M	RCA	none	yes	4	subtotal	irreg	1	
16	69	M	RCA	none	yes	CABG	total	irreg	3	
17	59	M	RCA	none	yes	2	total	irreg	2	
18	59	F	RCA	none	yes	CABG	total	irreg	2	
19	66	M	LAD-diag	none	yes	9	total	irreg LAD	1	diagonal occluded
20	44	M	LAD	250,000 IV	yes	14	total	irreg	3	CHF
21	44	F	RCA	240,000ICpost	yes	4	total	irreg	1	myxedema
22	73	M	RCA	250,000 IV 750,000 IC	no	10	total	100%	1	
23	56	M	LCx-CABG	none	yes	12	total	irreg	3	
24	58	M	RCA	none	yes	CABG	total	irreg	3	
25	52	F	LAD	none	yes	4	total	irreg	1	VF
26	80	M	RCA	200,000 ICpost	yes	10	total	30%	2	CHB CHF
27	65	F	RCA	none	yes	4	subtotal	irreg	1	
28	57	F	RCA	none	yes	5	total	irreg	3	
29	57	F	LCx	none	yes	3	subtotal	irreg	3	
30	42	F	LAD	none	yes	2	total	irreg	1	
31	76	F	LCx	none	yes	10	total	irreg LAD	3	occlusion OM branch
32	58	M	RCA	none	yes	7	total	irreg	1	VF
33	60	F	LCx	none	yes	2	total	30%	1	IT
34	61	M	LAD	none	yes	5	total	40%	1	IT
35	50	F	LAD	none	yes	7	total	irreg LAD	1	diagonal occluded
36	50	M	RCA	none	yes	4	subtotal	irreg	2	
37	80	M	RCA	none	yes	3	total	irreg	2	PTCA LAD
38	79	F	RCA	190,000 ICpost	yes	12	total	irreg	2	PYCA LAD
39	49	M	RCA	none	yes	2	subtotal	irreg	1	
40	58	M	RCA	none	yes	3	subtotal	irreg	1	
41	70	M	LAD	none	yes	CABG	total	irreg	3	CHF, VF
42	59	M	RCA	none	yes	2	total	30%	1	

IC = intracoronary; **IV** = intravenous; **ICpost** = given intracoronary after successful angioplasty; **LAD** = left anterior descending; **LCx** = left circumflex; **RCA** = right coronary artery; **Diag** = diagonal branch of LAD; **OM** = obtuse marginal branch of LCx; **CABG** = coronary artery bypass graft; **VF** = ventricular fibrillation; **CHF** = congestive heart failure; **CHB** = complete heart block; **IT** = intimal tear.

edema and cardiogenic shock. This patient had received an intravenous infusion of lidocaine, a glucose-insulin-potassium solution, and had been placed on an intraaortic balloon pump assist device. Patients 15 and 26 suffered recurrent infarction in the same vessel distribution four and eight weeks later, respectively. The mean hospital stay of patients who did not undergo coronary revascularization with surgery was six days with a range of two to 14 days. Hospital stays longer than nine days were due to ventricular dysfunction and/or arrhythmias. Despite the hemodynamic instability of patients 8 and 26, both were able to resume normal activity with normal ventricular function within eight weeks after hospital discharge. Patient 8 had suffered total occlusion of the left anterior descending artery during angiography for the evaluation of unstable angina and subsequently required insertion of an intraaortic balloon pump for resuscitation prior to angioplasty. Table 2 lists the distribution of lesions.

Two patients (12 and 19) underwent angioplasty of occluded diagonal branches of the left anterior de-

Table 2

	Attempts	Successes
LAD	10	10
RCA	24	22
LCx	5	5
LCx-CABG	1	1
LAD CABG	2	1

scending vessel, which approximated the left anterior descending in size. Patient 4 had occlusion and underwent angioplasty in the graft to the left anterior descending artery. The stenosis and occlusion in patient 23 was distal to the distal graft anastomosis in the native circumflex coronary artery. Four patients underwent early elective surgical revascularization to other nonoccluded coronary arteries. The first case probably represents an intimal tear and dissection of the right coronary artery. Cases 33 and 34 suffered intimal tears. Two months after therapy, case 33 had a normal resting and exercise gated radionuclide ventriculogram. Case 34 had recurrent angina and has undergone successful repeat coronary angioplasty of a 95% stenosis at the site of prior occlusion. Long-term follow-up of ventricular function and recurrence of stenoses of the remaining patients is incomplete.

Figures 1 through 3 demonstrate successful angioplasty of an occluded left anterior descending artery in a patient who was suffering from an acute anterior myocardial infarction. One year later, the patient was asymptomatic and demonstrated normal ventricular function by radionuclide ventriculography.

Complications. Three of the four patients who had ventricular fibrillation during the procedure were hypokalemic, and received intravenous potassium at the start of the procedure. One patient developed a significant groin hematoma and another suffered hemoptysis, but neither had received streptokinase.

Discussion

The use of coronary angioplasty for reperfusion in acute myocardial infarction is not a new procedure.[2] Several workers in the field have performed angioplasty after successful reperfusion with streptokinase, after failure of reperfusion with streptokinase, or prior to attempted reperfusion with streptokinase.[3-6] This prospective study is not a controlled study, and thus cannot compare the efficacy of streptokinase to coronary angioplasty. No patient was refused entry in this series because of age, hemodynamic stability or findings at the time of angiography. Although no patient was refused entry because of duration of symptoms, all patients had had symptoms for six hours or less before reperfusion. The patients presented here are consecutive in the time frame listed.

Reported success rates of reperfusion by intracoronary streptokinase vary, due to patient selection and other factors. This study emphasizes the importance of the early use of angioplasty, with streptokinase as an adjunct for lysis of any residual thrombus. As reported by Cao, the success rate of 73% with a duration of streptokinase infusion of 15-120 minutes (mean 44 ± 24 minutes) before successful reperfusion is comparable to the findings reviewed and also those reported in the Hoechst-Roussel registry.[7] In this study, the success rate of reperfusion was 93%, and all cases of reperfusion were successful within 30 minutes of initial angioplasty attempt. The speed of reperfusion is important since the degree of myocardial salvage is dependent on early reperfusion. In no case was streptokinase successful when angioplasty failed.

The importance of hypokalemia in myocardial reperfusion is emphasized by the prevalance of the condition in those who suffered reperfusion ventricular fibrillation. This arrhythmia, as well as ventricular tachycardia and premature ventricular contractions, are common sequelae of reperfusion during infarction, and are often the marker of a successful procedure.

The use of thrombolytic agents in the treatment of acute infarction is based on the assumption that the infarction is caused by thrombosis. The success of thrombolytic therapy depends on the presence of a clot and an adequate lytic state at the site of clot. Failure of thrombolytic therapy alone may be due to infarction from vasospasm at an area of critical stenosis without significant thrombosis. The higher success rate in this series is in part due to mechanical disruption of the clot, but also resolution of the underlying stenosis. Simultaneous correction of the underlying stenosis resolves the predisposing condition to infarction. Complications of reperfusion are reduced because resolution of the stenosis at the time of reperfusion prevents the early reocclusion reported by others.[8] This form of reperfusion, as the use of intracoronary streptokinase, requires specialized personnel and facilities, but also requires the additional technical skills of coronary angioplasty. The approach used in this study shortens hospital stay and decreases the cost to the patient. In this series, the average hospital stay was six days, while patients treated with streptokinase alone for myocardial infarction in the same institution were hospitalized an average of 12 days. The hospital stay is shortened because the number of subsequent procedures is obviated by resolution of the stenosis at the time of reperfusion. As reported by Cao, 28% of their patients studied were referred for later angioplasty. Thirty of the 42 procedures reported here were performed in a hospital without facilities for coronary bypass surgery. Angioplasty of noninfarct vessels was not performed in patients without surgical standby, and was often deferred because of the unstable nature of the presenting condition.

It would appear from this series that heparinization allows the body to lyse underlying thombus, as residual thrombus was an infrequent problem (three of the 39 cases of reperfusion by angioplasty). It is possible that there are patients in this series who had an infarction from vasospasm and thrombosis without a significant underlying stenosis. These patients might not otherwise be considered candidates for angioplasty because of the degree of underlying stenosis.[9] The higher success rate of reperfusion (93%), earlier reperfusion (within 30 minutes), and lower rate of complication favor the use of this technique for mechanical clot disruption.

In conclusion, streptokinase is an important adjunct to coronary angioplasty. Angioplasty in acute infarction has been found to shorten hospital stay, reduce the cost to the patient, obviate subsequent procedures, offer higher success of reperfusion at a lower rate of complications (early reocclusion) and allows recanalization earlier in the procedure. Although it remains technician-dependent, it can be safely performed in the community-based hospital.

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The author wishes to thank the referring physicians and laboratory personnel who made the study possible. The editorial assistance offered by Robert Kipfer, M.D., is especially appreciated.

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Ankylosing Spondylitis with Cauda Equina Syndrome

Case Report

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The diagnosis of cauda equina syndrome in patients with ankylosing spondylitis is important for avoiding unnecessary surgery. Computed tomographic findings are characteristic and can eliminate the need for myelography. The etiology of the syndrome is discussed.

Cauda equina syndrome is becoming increasingly recognized as a complication of rheumatoid ankylosing spondylitis. Striking radiographic findings have been described using plain films, computerized tomography (CT) and myelography. Specific features demonstrated by CT studies in these patients may be sufficient to establish a diagnosis without performing myelography. In patients with cauda equina syndrome associated with rheumatoid spondylitis, it is important to correlate anatomic findings with neurologic symptoms, and thereby possibly avoid unnecessary surgery for bladder dysfunction.

Case Report

A 75-year-old white man with a 10-year history of ankylosing spondylitis was admitted to St. Luke's Hospital in Kansas City, Mo., for evaluation of his two-year history of progressive polyneuritis, primarily involving his lower extremities. He described vague, diffuse pain in both legs with numbness in his feet and progressive difficulty walking over the past year. Urinary hesitancy with a diminished stream and incontinence was present. He also complained of severe constipation. His medical history revealed that he had undergone a transurethral prostatectomy in 1979, but that his obstructive voiding symptoms had persisted. Back immobility and stiffness were present but not painful. The patient's management was further complicated by the presence of a non-resectable squamous cell carcinoma of the lung.

Examination revealed decreased sensation in both feet and the buttocks in the saddle area, with a greater loss on the right side than the left. Perianal sensation was intact but there was no anal wink reflex nor tone of the anal sphincter. The right ankle reflex was absent. The patient demonstrated an ataxic gait and a positive Romberg sign. No evidence of cyanosis, clubbing or edema was present in the lower extremities, which also had good pulses. Brawny darkening of the skin in the anterior tibial areas was noted.

Abnormal laboratory values included an elevation of the alkaline phosphatase, albumin, creatinine and uric acid. Hypocalcemia was also present. A complete blood count was normal. Cerebrospinal fluid obtained prior to myelography demonstrated no cellular or chemical abnormalities. Nerve conduction velocity studies of the peroneal, tibial, and ulnar nerves demonstrated a moderately severe sensory polyneuropathy, primarily on the right. An electromyogram of the triceps, biceps, hamstrings, and gastrocnemius muscles showed denervation changes

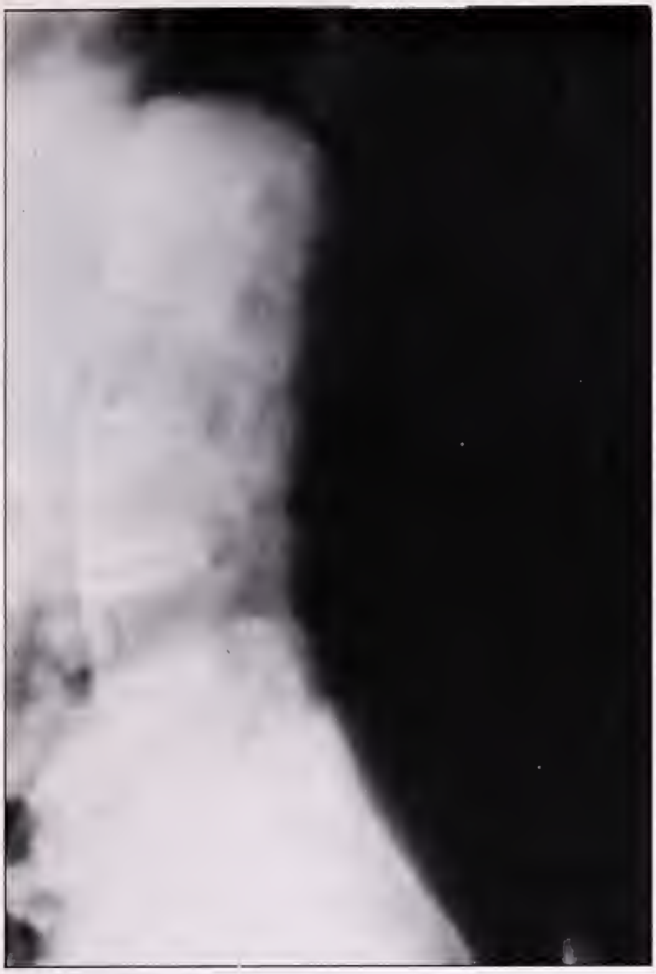

Figure 1. Typical spinous changes of advanced ankylosing spondylitis.

in both upper and lower extremities, primarily on the right, and greatest distally.

Radiographic studies included plain films, isotope scans, CT and myelography. Cervical spine, thoracic spine and lumbar spine radiographs all demonstrated significant bony ankylosis involving the posterior facet joints. There was also an associated diffuse spinous ligament calcification. Bony degenerative changes were also noted (Fig. 1). The patient had a negative isotope bone scan. CT was performed at 1 cm intervals between L1 and S1. The configuration of the spinal canal at L3 was strikingly abnormal with erosion and scalloping of the posterior elements, particularly on the right side (Fig. 2). The other vertebral levels had a normal appearance. Diffuse hypertrophic sclerotic changes of the apophyseal joints were seen throughout the remaining lumbar spine. Lumbar myelography was performed at the L2-L3 level. Diverticula of the lumbar subarachnoid sac were seen dorsally, more so on the right side than the left (Fig. 3). There was no evidence of spinal stenosis. A follow-up CT contrast study using the metrizamide from the lumbar myelogram confirmed that the vertebral erosions seen on the original CT scan were secondary to the pseudodiverticula (Fig. 4).

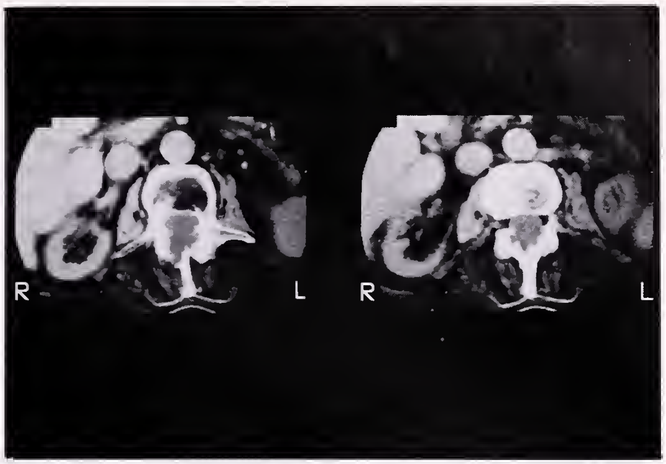

Figure 2. Contiguous computerized tomography slices showing erosion and sclerosis of posterior elements of L3 vertebra.

Discussion

During the past 20 years, the reported neurologic complications of ankylosing spondylitis have included root compression with radiculopathy as well as cervial spinal cord compression, due to either atlantoaxial subluxation or trauma. The development of cauda equina syndrome in patients with ankylosing spondylitis is now also recognized as a possible neurologic complication. In 1961, Bowie and Glascow first described a case of cauda equina syndrome in a patient with ankylosing spondylitis. Since then several case reports have appeared in the literature with many common clinical and radiographic findings.[1-4] Common clinical features of these cases are inactivity and a long duration of primary spondylitis (usually greater than eight years).[2] These patients are usually men. Symptoms are most often in the distribution of the lumbosacral nerve roots, specifically pain and weakness of the lower extremities, difficulty with bowel and bladder function and impotence. Physical examination of these patients typically shows weakness and decreased deep tendon reflexes in the lower extremities, lax anal sphincter, and decreased sensation of the saddle area, posterior thigh and lateral aspects of the feet.[5] Because these patients may present with urinary hesitancy, transurethral resections have been reported for this problem.[2]

The significance of the radiographic demonstration of subarachnoid diverticula of the lumbar sac or an enlarged thecal sac with bony erosions of the laminae has been well established.

The radiographic appearance of ankylosing spondylitis on CT and myelography is characteristic. Myelography may show subarachnoid diverticula or dilatation of the entire dural sac.[2] This case demonstrates dorsal diverticula, which are frequently difficult to appreciate with the patient in the standard prone position. When subarachnoid sacculations are located dorsally, it is often necessary to obtain supine myelographic views because the usual prone positioning may not result in opacification of dorsally located diverticula. It is often difficult to perform myelograms

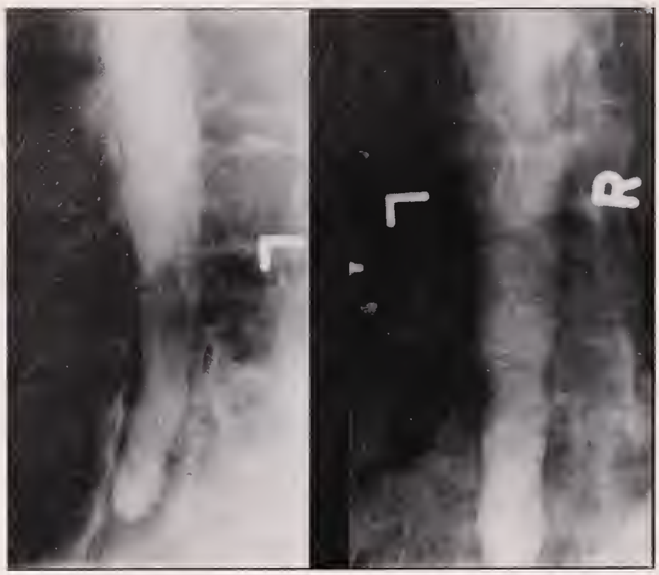

Figure 3. Supine (A) and lateral (B) views show contrast-filled pseudodiverticula at myelography.

on these patients because of their rigid, immobile, ankylosed spines. CT is a less demanding examination on the patient and has been extremely helpful in defining these lesions. CT findings frequently include focal erosions of the posterior elements, which may be asymmetrical and multiple. Commonly the spinous processes and laminae are involved. Diffuse enlargement of the spinal canal is also widely reported. Our case demonstrates asymmetrical erosions primarily on the right side, consistent with the patient's symptoms. Included in the differential diagnosis of such CT findings are neurofibromatosis and Marfan's syndrome. However, these frequently involve anterior elements, and tend to be less localized. Osteosarcoma, osteomyelitis, aneurysmal bone cysts and osteoid osteoma must also be considered; these, however, typically occur in younger age groups and have a different clinical presentation. Any of these lesions can cause lytic destruction of the posterior elements and should be considered in a complete differential diagnosis. Lytic bone metastases can also cause focal erosions; however, the sclerotic margin and absence of an associated soft tissue mass mitigate against this. Finally, perineural cysts and congenital spinal cysts (either intradural or extra-dural) may cause erosive changes, but these usually have a more symmetrical presentation and typically do not involve the posterior elements.

The etiology of cauda equina syndrome in patients with ankylosing spondylitis is unknown. In the 1960s, Matthews hypothesized that these diverticula were the result of active arachnoiditis with subsequent adhesions, findings which are seen primarily in the early stages of the disease.[1] This theory is supported by the fact that approximately 40% of patients with rheumatoid spondylitis have increased CSF protein levels. Histologically, fibrous proliferation and calcification of the arachnoid have been identified.[1] Adhesions can lead to the formation of blind end pouches that expand, either locally or diffusely, and result in erosion of adjacent laminae and spinous processes. The inflammatory process usually subsides spontaneously. Although short trials of anti-inflammatory medications have been utilized, an effective treatment has not yet been established.[2]

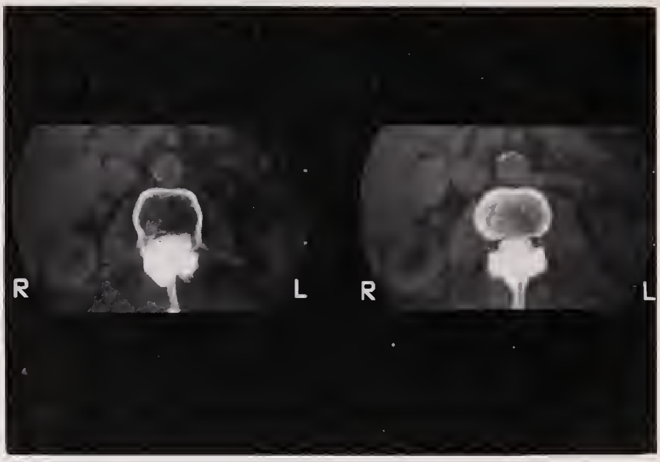

Figure 4. Post-myelographic computerized tomography confirms erosion by pseudodiverticula.

In conclusion, there are characteristic radiographic findings associated with longstanding ankylosing spondylitis in patients who develop symptoms of cauda equina syndrome. Both CT and myelography can help establish this diagnosis with a great deal of certainty. Characteristic CT findings are diagnostic and may obviate the need for myelography. It is important to establish this diagnosis for prevention of unnecessary surgery and to have a definitive explanation for progressive neurologic symptoms in patients with rheumatoid spondylitis.

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Auranofin in the Treatment of Rheumatoid Arthritis

A Two-Year Study

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Sixteen of 25 patients completed a two-year study of auranofin, an oral chrysotherapeutic drug. The investigators found minimal toxicity and no serious side effects in these patients and support the drug's use in long-term treatment of rheumatoid arthritis.

The efficacy of parenteral chrysotherapy in the treatment of rheumatoid arthritis (RA) is well established.[1, 2] Both gold sodium thiomalate (Myochrysine) and aurothioglucose (Solganal), the compounds currently available, require intramuscular (IM) administration because of their poor absorption from the gastrointestinal tract. In contrast, Auranofin, (Aur) (2,3,4,6, tetra-O-acetyl-l-thio-D-glucopyranosato-S-triethylphosphine gold) (Fig. 1), is satisfactorily absorbed when given orally,[3-6] thus permitting a more desirable means of administration. Consequently, it has been under extensive study.

Aur has been shown to be effective in the treatment of RA in previous short-term clinical trials of four to six months' duration.[3, 6-9] Since studies of long-term safety and efficacy of Aur have not been published previously, the results in 24 patients treated for two years are reported here.

Materials and Methods

Twenty-five patients with definite or classical RA[10] were involved in this study. One patient was dropped during the first month of the study due to a non-drug related medical problem, leaving 24 for evaluation. Patients were admitted to the study if they had at least six painful and three swollen joints, morning stiffness lasting more than 30 minutes, and an erythrocyte sedimentation rate (ESR) greater than 28 mm/hr (Westergren). Patients were excluded if they had previously received gold salts, penicillamine, or immunosuppressive drugs, or had a prior history of significant cardiovascular, renal, or hepatic disease. Women of childbearing potential were also excluded. Antirheumatic drugs including aspirin, other nonsteroidal anti-inflammatory drugs and prednisone in maintenance doses of 10 mg daily or less, taken prior to entrance into the study, were continued at the same dosage throughout the study. All patients were required to participate with informed consent. The study was approved by St. Louis University's Institutional Review Board.

The initial phase of the study lasted a minimum of three months and was double-blind. During this time, Aur doses of 1 mg twice a day and 3 mg twice a day were compared. If improvement was satisfactory at the end of three months, the study was continued on a double-blind basis with the patient continuing the same dosage; if results were unsatisfactory, the code was broken and those patients on the lower dose were placed on the high-dose regimen. If results remained unsatisfactory during the unblinded portion of the study, the total dose could be raised to 9 mg daily. If toxicity occurred, test doses of 0.3 mg twice a day could be administered during any phase of the study.

A complete physical examination was performed every six months. Subjective evaluation and objective assessment of improvement were determined monthly, the latter including joint counts for tenderness and swelling, time required to walk 50 feet (walk time), grip strength, duration of morning stiffness, and American Rheumatism Association (ARA) functional classification.[10] Improvement, both subjectively and objectively, was graded as poor, fair, good or excellent. Greater than 50% and 75% objective improvement was interpreted as good and excellent, respectively; these values were obtained as an estimated composite of the objective measurements. Weight,

Table 1

A comparison of clinical features of the patients on both dosages of Aur

	2 mg	*6 mg*
Number of patients	13	11
Females	7	8
Males	6	3
Age	27-74	43-73
(mean)	54.9	61.0
Functional Class I	2	1
Functional Class II	6	7
Functional Class III	5	3

Table 2

The number of patients remaining on the study at one month, six months, 12 months, and 24 months and their corresponding dosage of Aur.

Months	Number of Patients			
	0.33 mg	*2 mg*	*6 mg*	*9 mg*
1	—	13	11	—
6	—	9	15	—
12	1	5	12	1
24	2	5	8	1

Table 3

Toxicity

	Number of Patients		
	0.33 mg	*2 mg*	*6 mg*
Rash	1	2	4
Stomatitis	2	—	1
Diarrhea	—	1	1
Epigastric Pain	—	1	1
Hair Loss	—	—	—
Nipple Tenderness	—	1	—
Decreased Hematocrit	—	—	1
Elevated BUN	—	—	1
Elevated Serum Uric Acid	—	—	1

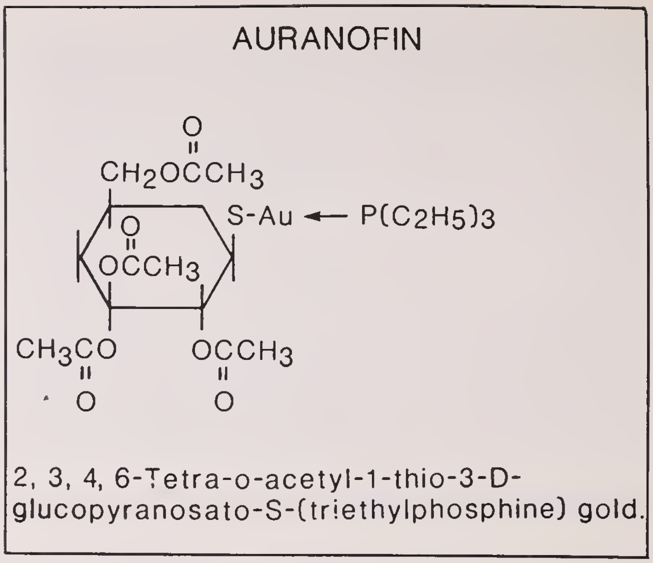
AURANOFIN
O
CH2OCCH3
S-Au ← P(C2H5)3
O
OCCH3
CH3CO
O
OCCH3
O
2, 3, 4, 6-Tetra-o-acetyl-1-thio-3-D-glucopyranosato-S-(triethylphosphine) gold.

Figure 1. The structural formula of auranofin.

blood pressure, temperature, and symptoms and signs of toxicity were checked every two weeks, the latter more frequently if necessary. Laboratory studies, including a complete blood count (CBC), platelet count, urinalysis, and chemistry profile for calcium, inorganic phosphorus, blood urea nitrogen (BUN), creatinine, uric acid, glucose, cholesterol, triglycerides, serum glutamic oxaloacetic transaminase (SGOT), alkaline phosphatase, lactate dehydrogenase (LDH), total bilirubin, total protein, albumin, creatinine phosphokinase (CPK), and serum electrolytes were performed every two weeks. A stool guaiac was done initially, biweekly during the first three months, monthly during the next three months, and every three months thereafter. 19S IgM rheumatoid factors (RF) by latex fixation, ESR by the Westergren method, and serum immunoglobulins (IgG, IgM, IgA, by immunodiffusion, and IgE by radioimmunoassay) were determined at the onset, one month later, and every three months thereafter. X-rays of the hands and wrists were obtained at the onset and every six months. In addition, complement fixing RF was measured by a hemolytic assay previously described by Moore et al,[11] and circulating immune complexes (CIC) were determined by the Clq solid phase assay.[12] Data were analyzed by Student's t test. When patients were withdrawn from the study, their data were excluded from the remaining statistical points.

Results

Of the 25 patients enrolled in the study, 13 were started on the 2 mg dose while patients were placed on 6 mg daily. (The one patient discontinued during the first month had been on the 6 mg dose.) Data are presented for the remaining 24 patients. Table 1 compares the age, sex, and ARA functional classification[10] of patients on both dose regimens.

Seven patients on the 2 mg dose were raised to the higher dosage schedule after three months because of inefficacy. One patient initially on the 2 mg daily dose and another on the 6 mg dose were later lowered to 0.33 mg because of toxicity. Both were maintained on this latter dose without side effects throughout the remainder of the study. A third patient who was initially on 2 mg developed stomatitis after having the dosage raised to 6 mg. The stomatitis resolved after the dosage was lowered once again to 2 mg daily and did not recur while the patient was taking the lower dosage. Two patients who did not improve with 6 mg were eventually raised to 9 mg per day.

The number of patients remaining on the study at one month, six months, one year, and two years with

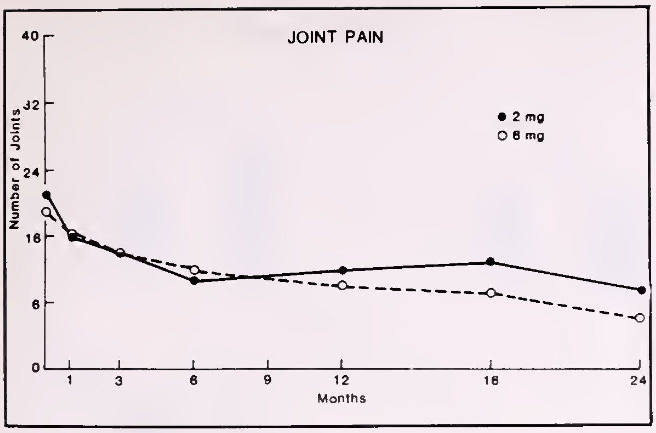

Figure 2. Both dosages of Aur decreased joint pain during the study. Joint pain was significantly reduced on 2 mg (p<0.01) and 6 mg (p<0.05).

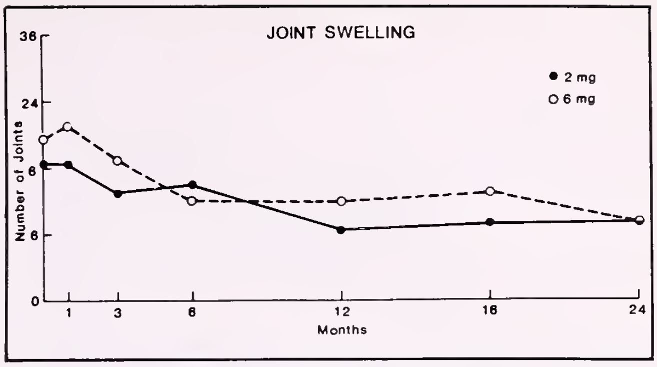

Figure 3. Joint swelling was significantly reduced (p<0.05) on the 6 mg dosage. The 2 mg dosage did not significantly alter joint swelling.

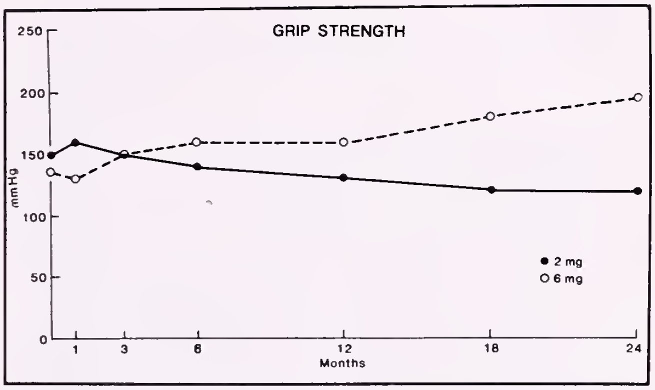

Figure 4. Grip strength improved significantly on 6 mg (p<0.05). The 2 mg dosage did not significantly alter grip strength.

their corresponding Aur dosages are shown in Table 2. At six months and one year, 24 and 19 patients, respectively, were still participating in the study. Sixteen completed the entire two years of evaluation. At the end of two years, two patients were on 0.33 mg, five on 2 mg, eight on 6 mg, and one on 9 mg daily.

Seventeen patients experienced good or excellent responses both subjectively and objectively. Improvement began one to five months after initiation of treatment with a mean of 2.3 months. Complete remission, defined as the absence of subjective complaints and lack of clinical and laboratory evidence of disease activity, occurred in four patients.The number of tender joints decreased significantly in patients receiving both the 2 mg (p<0.01) and 6 mg (p<0.5) dosages of Aur, but a significant reduction in the number of swollen joints occurred only in the 6 mg dosage group (p<0.05) (Figs. 2 and 3). Grip strength improved significantly (p<0.05) only for those on the 6 mg dose (Fig. 4). The duration of morning stiffness and walk time were not significantly altered in either dosage group (Figs. 5 and 6).

Seven patients did poorly and were removed from the study because of inefficacy. All had been treated with at least 6 mg Aur daily for four months or longer. Two of these patients also had taken 9 mg Aur daily for two months or longer. Most failures occurred within the first year of treatment. Two patients, however, had a good response initially, but had to be discontinued after 14 and 20 months, respectively, because of inefficacy.

The ESR, serum immunoglobulin levels, RF titers, and levels of CIC were reduced in most patients during the study. The ESR decreased in 22 patients, while two had a slight increase in the ESR. After 12 and 24 months of treatment, the ESR decreased significantly for patients receiving both the 2 and 6 mg dosages (p<0.05). Figure 7 demonstrates the average lowering of the ESR in both dosage groups.

At 24 months there was a reduction of the serum IgG level in 12 patients, of IgM in 10, of IgA in 13, and of IgE in 16. The mean serum value of IgG (p<0.05), IgA (p<0.05), and IgE (p<0.001) was lowered significantly in patients on the 6 mg dose at 24 months. Only the IgG level was significantly lowered (p<0.05) in patients on the 2 mg dosage after 24 months. IgM was not significantly lowered in either dose group. Figure 8 demonstrates the immunoglobulin levels during the study for both dosages. IgM RF, tested by latex fixation, decreased greater than two tube dilutions in 15 of 21 patients. Ten patients with lowered RF titers were on 6 mg daily, and the remaining five were on 2 mg. Complement fixing RF, as tested by a hemolytic assay, were present initially in 11 of 20 patients. Four had a significant drop in this titer as manifested by a greater than two tube change.

Eight of 21 patients tested had elevated levels of CIC at the beginning of the study. In five of these eight patients immune complex levels returned to normal, while levels in the other three remained high throughout the study. CIC levels became elevated in three other patients during the first six months of the study. In one of these, the level eventually returned to normal. A correlation between lowering of CIC and clinical improvement could not be demonstrated; the number of patients studied was too small to permit meaningful analysis. Hand x-rays showed an increased number of erosions in four patients at the end of the study. No x-ray changes occurred in the other

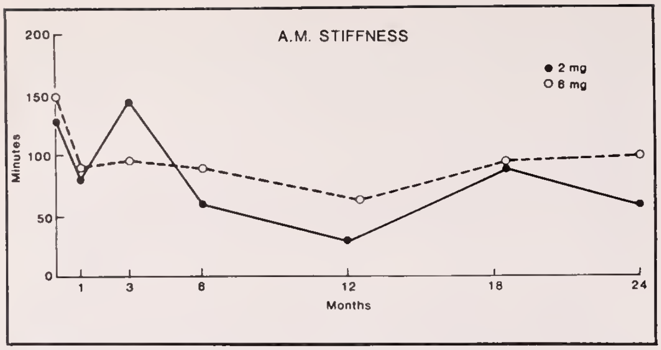

Figure 5. A significant change in morning stiffness did not occur on either the 2 mg or 6 mg dosages of Aur.

subjects.

Side effects considered drug-related are outlined in Table 3. Mucocutaneous reactions were most common. Diarrhea and epigastric pain were the next most frequent manifestations. Two patients developed transient mild (1+) proteinuria, but both had normal 24-hour urine protein determinations. One patient had a transient episode of nipple tenderness. Serious renal, hepatic, or hematologic toxicity did not occur. One patient developed vasculitic lesions over both lower extremities that were not thought to be due to Aur. A slight lowering of the hemoglobin and hematocrit levels occurred in one patient, but these values improved during the Aur therapy, suggesting that the drug was not responsible for the decreases. The few side effects that occurred in this relatively small patients population did not allow for a meaningful comparison of side effects between the 2 and 6 mg daily dosages.

Discussion

Subjective and objective improvement occurred on both the 2 and 6 mg daily dosages of Aur in 17 of 24 patients, 16 of whom were treated for two years. Statistically, greater improvement in joint count and swelling occurred with the 6 mg daily dose than with 2 mg daily. Two patients who did not improve on the 2 mg regimen responded to the higher dose, suggesting that 6 mg daily is more effective for some individuals. Eight patients, however, did have satisfactory results on 2 mg daily. In view of the small number of patients studied and because improvement resulted in some of the patients on the lower dose, it was not possible to establish the optimum dose of Aur. Two recent studies[13, 14] comparing doses of Aur ranging from 1 mg-9 mg also did not define conclusively the optimum dose of Aur in the treatment of RA.

It is noteworthy that two patients with initial improvement worsened during the second year of the study, findings reminiscent of results with intramuscularly administered gold salts.[15] The reason for this loss of efficacy is unknown.

Certain laboratory values returned towards normal levels in patients on both the 2 and 6 mg doses of Aur, including the ESR, immunoglobulin levels G, A, and E, and RF titers as detected by latex fixation and hemolytic assay tests. Statistically significant lowering of the ESR was noted with both the 2 and 6 mg doses. A greater number of statistically significant decreases in serum immunoglobulin levels and RF titers occurred in patients receiving 6 mg daily. Consistent CIC alterations were not found.

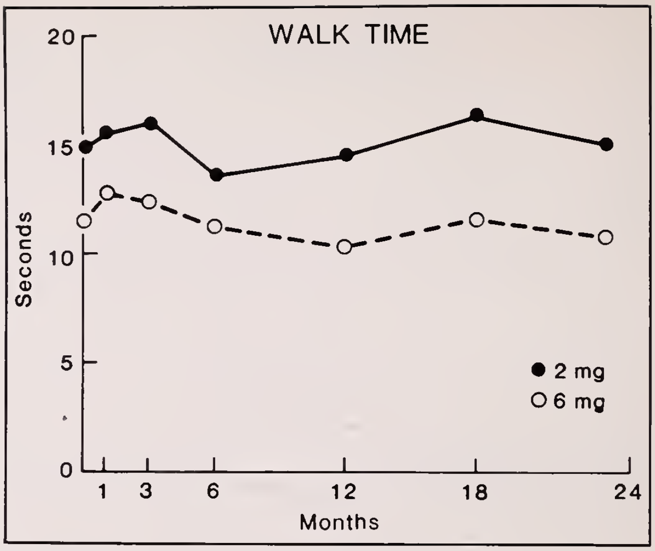

Figure 6. Walk time was not significantly altered on either dosage of Aur.

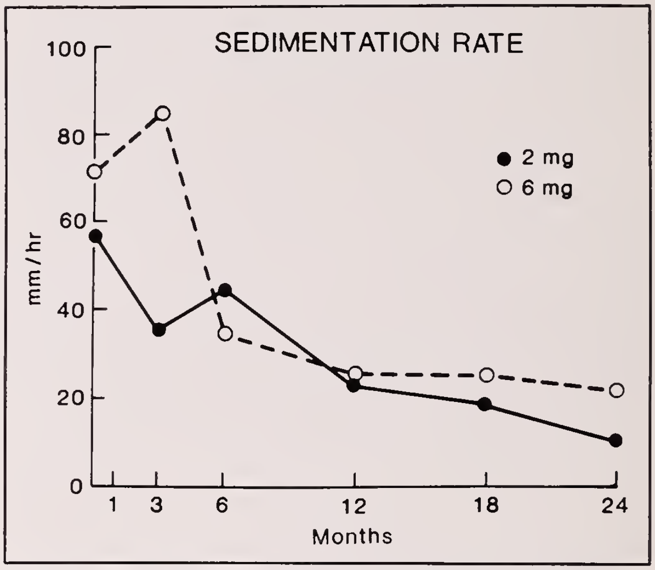

Figure 7. The sedimentation rate was significantly lowered on both the 2 mg and 6 mg dosages of Aur ($p<0.05$).

Toxicity was minimal. Mucocutaneous complications were more frequent than previously reported with intramuscularly administered gold.[1] Diarrhea occurred in only two patients and was not a major problem. In previous reports diarrhea had been more frequent and sufficiently severe to necessitate stopping Aur therapy in several patients.[3, 14] Significant hematologic and renal toxicity did not occur.

Although the mechanism of action of Aur in the treatment of RA is unknown, several effects have been identified. Aur has been shown to suppress multiple in vitro and in vivo humoral responses, such as anti-

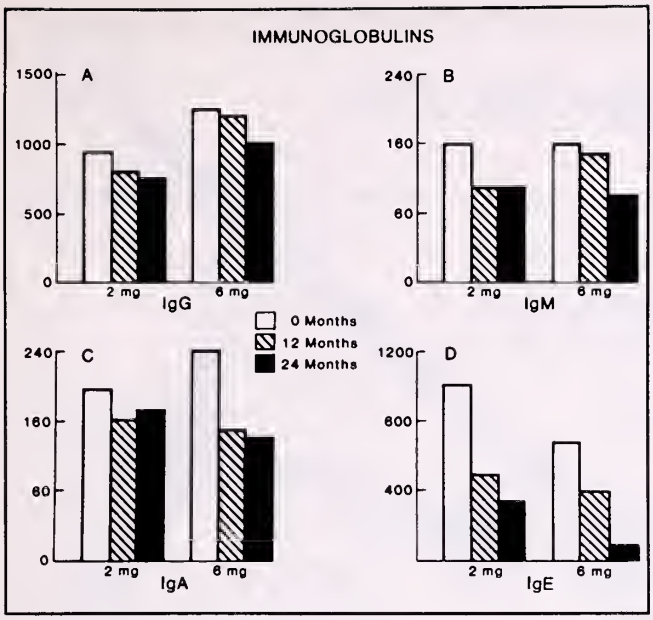

Figure 8. Serum levels of IgG, IgM, IgA, and IgE were lowered on both dosages of Aur. Serum IgG was significantly lowered on both 2 mg ($p<0.05$) and 6 mg ($p<0.05$) doses. The 6 mg dosage also significantly lowered serum IgA ($p<0.05$) and IgE ($p<0.001$) levels. IgA and IgE levels were not significantly altered by the 2 mg dosage. Neither dosage significantly lowered serum IgM levels.

body-dependent cell-mediated cytotoxicity, antibody dependent complement lysis, antibody secretion, and production of hemolytic plaque-forming cells.[16] Aur inhibits the production of hyperimmune 7S hemagglutinin antibody to sheep red blood cells (SRBC) in adjuvant arthritic rats.[17] The decrease in RF titers and immunoglobulin levels that we observed is consistent with the immunosuppressive action of Aur reported previously.[6] Aur is not, however, a true immunosuppressive agent since it both impairs and enhances some aspects of immune responsiveness.[18] Walz[17] has suggested that Aur acts as an "immudulating agent" in the treatment of RA. Aur's beneficial effects in the treatment of RA could also be secondary to its effect on inflammation since it suppresses phagocytosis by monocytes and lymphocytes,[19] and inhibits leukocyte lysosomal enzyme release.[20]

In conclusion, Aur appears to be a relatively safe and effective agent in the long-term treatment of patients with RA. Further studies are needed to evaluate its precise mode of action and its optimum effective dose. Its relative safety and potency as compared to intramuscularly administered gold salts and other drugs like penicillamine and immunosuppressives also need to be clarified. Diarrhea has been the most troublesome reported side effect, but fortunately not of a serious nature. Whether Aur is as potent as parenterally administered gold salts cannot be ascertained from this study. Recent reports[21, 22] suggest that Aur is as effective as gold sodium thiomalate in the treatment of RA. Further double-blind studies comparing the efficacy and safety of both drugs are indicated.

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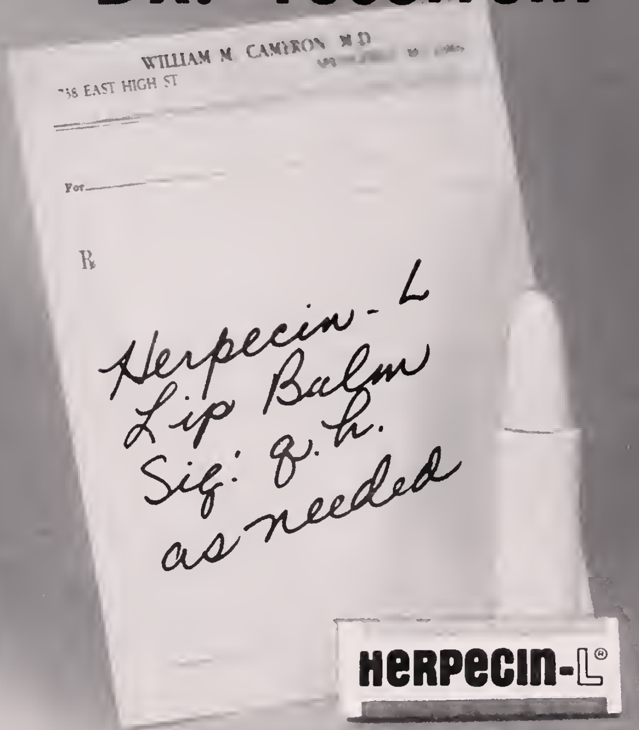

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Medical School News

University of Missouri-Kansas City

- Associate Dean for Student Affairs **Virginia Calkins** was honored at a late-August reception on the occasion of her retirement. Dean Calkins, who had been with UMKC School of Medicine for 14 years, was credited for establishing important admissions policies and procedures, for her work in assisting qualified students gain access to financial aid, and for her work with the Association of American Medical Colleges. **Dean Harry S. Jonas, M.D.,** presented her with a chair and a pen set on behalf of her many years of dedicated service. She will remain at the School of Medicine on a limited, part-time basis, pursuing one of her long-time interests, research in medical education.

- Two newly-created administrative positions at UMKC School of Medicine were filled this fall. **W. Ray Snider, M.D.,** was named associate dean for academic affairs, and **Harold M. Glazer,** was named assistant director of the Office of Educational Resources (OER).

Dr. Snider has been associated with the School since 1974, first as a docent and professor. He has spent the past nine years as chairman of the Department of Surgery for Truman Medical Center. In addition to acting as the Dean's representative in the Dean's absence, Dr. Snider will be acting as a liaison between the medical school and the School of Basic Life Sciences; he will be extensively involved with community affiliated hospitals; and he will work in all academic areas with the School's councils on selection, curriculum, and evaluation.

As assistant director of OER, Mr. Glazer is responsible for the day-to-day operations of this important service unit. He has been associated with the School since 1973, serving as supervisor of Medical TV, then as acting director of OER for 14 months.

- Accomplished physician-poet **John Stone, M.D.,** was the keynote speaker at the School's November 3 convocation. Traditionally, convocation is a means for formally welcoming first-year students and their parents. In addition to being a widely published poet, Dr. Stone sees patients and teaches at Emory University School of Medicine in Atlanta, where he is professor of Medicine (cardiology) and Community Health (emergency medicine). He is also associate dean and director of admissions for the medical school.

- **Sharon L. Curtiss** was recently appointed executive staff assistant to the School's Council on Evaluation. Ms. Curtiss, who succeeds Ms. **Connie Currall,** most recently was with Methodist Medical Center in St. Joseph.

- Fifth-year student **Louis Portgual** was selected as a winner of the 1985 Mobay College Essay Award. He received $400 for his entry, "Calmodulin: Physiologic Role and Molecular Basis of Action," which he submitted on the recommendation of **Bob In-Yu Yang, Ph.D.,** associate professor of chemistry and medicine.

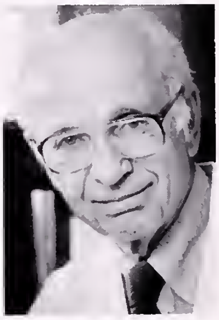
- Provost emeritus **E. Grey Dimond, M.D.,** recently joined **David Rockefeller** and former U.S. presidents **Jimmy Carter** and **Richard Nixon** when he was named a sponsor of the Yenching University Educational Foundation. The aim of this Chinese foundation is to develop academic research and broaden the domain of intercultural scholastic activities. Other foundation sponsors include **Henry Kissinger** and **Harrison Salisbury.**

Washington University

- Two internationally recognized faculty members at Washington University School of Medicine have been elected fellows of the American Association for the Advancement of Science (AAAS).

William H. Daughaday, M.D., Irene E. and Michael M. Karl Professor of Endocrinology and Metabolism, and **Paul E. Lacy, M.D., Ph.D.,** Robert L. Kroc Professor of Diabetes and Endocrine Diseases, are among 312 association members who have been named 1985 fellows. The AAAS, formed in 1848, is the nation's leading general scientific organization with almost 136,000 individual members and 285 affiliated scientific societies and academies of science. In electing fellows, the AAAS honors members who have made scientifically or socially distinguished efforts to advance science or its application.

Dr. Daughaday was honored for work that is known worldwide. His research has brought about a better understanding of basic hormonal action, especially in showing that some of growth hormone's actions are mediated by somatomedins and showing that adrenal corticosteroids are transported in plasma by a specific binding protein. He stepped down earlier this year after 34 years as director of the Division of Endocrinology and Metabolism of the Department of Medicine, but continues as Karl Professor and as director of the Diabetes Research and Training Center. He is on staff at Barnes and Jewish hospitals, sponsoring institutions of the Washington University Medical Center.



Dr. Lacy is internationally recognized for his diabetes research. He is noted especially for his recent efforts to control diabetes by transplanting insulin-producing cells from cadaver pancreas to diabetic patients, a procedure that temporarily and safely produced detectable levels of insulin in four of the seven patients treated. Dr. Lacy is credited with significantly advancing immunology, organ transplantation and the search for better diabetes treatments. Earlier this year, he stepped down as head of the Department of Pathology, a position he held for more than 20 years, to concentrate full time on his research as the Kroc Professor. He remains on staff at Barnes, Chil-

dren's and Jewish hospitals at Washington University Medical Center.

■ **Philip E. Cryer, M.D.** has been named director of the Division of Metabolism and Endocrinology in the Department of Medicine at Washington University School of Medicine in St. Louis.

His appointment was announced by **David M. Kipnis, M.D.**, Adolphus Busch Professor and head of the Department of Medicine. Dr. Cryer succeeds **William H. Daughaday, M.D.** At the School of Medicine, Dr. Cryer is professor of medicine and program director of the General Clinical Research Center (GCRC), a federally funded unit that supports biomedical research in humans. He is the immediate past president of the national Association of Program Directors, GCRC.

In addition, Dr. Cryer is director of the Clinical Research Facility at the medical school's Diabetes Research and Training Center. He is on staff at Barnes Hospital and a consulting physician at Children's Hospital, both sponsoring institutions of the Washington University Medical Center.

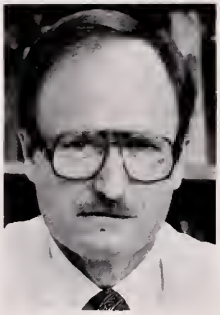
■ A pathologist at Washington University School of Medicine is working with the St. Louis-based computer company Management Techniques, Inc., to develop a unique computerized system for autopsy records.

The system is believed to be first in the country to automatically cross-index the two leading systems for classifying and encoding anatomic pathology and clinical diagnoses. If successful, it could be adapted by health care institutions nationwide as a means of increasing the precision of diagnoses and the classification of diseases.

The model system will be created under a $50,000 Small Business Innovation Research grant awarded by the National Institutes of Health (NIH) to Management Techniques, Inc. **Daniel W. McKeel Jr., M.D.**, director of the Divison of Autopsy Pathology at the School of Medicine, is project consultant.

Dr. McKeel also is an associate professor of pathology and co-director of the Washington University Diabetes Research and Training Center Morphology Core Laboratory. Funding for his academic pathology research has included two Biomedical Research Support Grants, an individual three-year Research Grant Award from the NIH, and a five-year Research Career Development Award.

■ **John A. McDonald, Ph.D., M.D.**, has been named director of the pulmonary disease division at Barnes Hospital in the Department of Medicine at Washington University School of Medicine in St. Louis.



His appointment was announced by **David M. Kipnis, M.D.**, Adolphus Busch Professor and chairman of the Department of Medicine.

Dr. McDonald is an associate professor of medicine and assistant professor of biochemistry at Washington University. His research interests lie in the structure and function of fibronectins and how these and other adhesive and supportive molecules in the lung are altered in experimental and human lung injury. He is on staff at Barnes and Jewish hospitals, both sponsoring institutions of the Washington University Medical Center.

St. Louis University

■ **Mario C. Trindade, M.D.**, assistant professor of cardiology, St. Louis University School of Medicine, has been appointed medical director of the Cardiovascular Fitness and Rehabilitation Center at St. Louis University Medical Center.

Dr. Trindade is responsible for the establishment of safe and therapeutic patient protocols and the overall medical aspects of the center's programs for both the medical center patients and the diagnostic services made available to the community.

■ **Gregory Baily, M.D.**, resident research director for St. Louis University Hospitals' department of neurosurgery, and **Robert K. Fabian**, assistant director of biomedical communications for the medical center, have developed a new three-dimensional video system that is being used to train neurosurgeons and to record the work of the world's leading microsurgeons. The system uses two cameras attached to a microscope to project and record neurosurgery, which in the past has been limited to two-dimensional reproduction, without depth.

■ The St. Louis Chapter of the American Heart Association has awarded the Buder-Peters fellowship to **Stephen K. Janney, M.D.**, assistant professor of internal medicine, St. Louis University School of Medicine.

This three-year, $90,000 renewable grant will be used to study the high incidence of blood clotting in the sickle cell anemia population. This study will form the basis for the future study of the role blood cells play in heart attacks and other thrombotic events in patients without sickle cell disease.

■ A three-year, $213,000 grant from the National Cancer Institute has been awarded to **William S. M. Wold, Ph.D.**, associate professor of molecular virology, St. Louis University School of Medicine.

Dr. Wold will study how cellular proteins are made and assembled into the cell membrane.

The University of Missouri-Columbia

■ Called a resource for all physicians in Missouri, the J. Otto Lottes Health Sciences Library on the University of Missouri-Columbia (UMC) campus was dedicated Sept. 13, 1985.

The new facility "will be available — and I suspect used — by every practicing physician in outstate Missouri," said **Dr. William D. Bradshaw**, dean of the UMC School of Medicine.

The new library was named in honor of **Dr. J. Otto Lottes**, a retired St. Louis orthopedic surgeon, who donated 3,200 acres of land, valued at $1 million, in 1979 to UMC to use for the construction of a new library.

A 1935 graduate of the University of

Missouri School of Medicine (then a two-year program), Dr. Lottes told the audience at the dedication ceremony that "generosity begets generosity. I gave to this University because people here gave to me."

Dr. Lottes' medical career was highlighted by the invention of what is now called the Lottes Nail, a long metal pin used to correct fractured tibias.

His gift to UMC is "the largest from any living individual," said UMC Chancellor **Barbara S. Uehling.**

The remainder of the $5 million total cost for the library was funded by $3,185,000 in state appropriations and an additional $815,000 in private contributions from more than 750 individuals and institutions.

Among the major corporate donors were Anheuser-Busch Companies, J. B. Reynolds Foundation in Kansas City, MFA Foundation and Shelter Insurance.

The 39,000-square-foot library is three times as large as the old medical school library, with room for 350,000 volumes, allowing for 10 years' growth. The new facility has room for more than 400 users, and features a media service section with state-of-the-art audiovisual equipment and 30 personal computers. A rare book room, containing medical history and valuable editions, is located on the third floor.

The library is located north of the School of Medicine and uses passive solar energy from two atriums, which run the full length of the building and maximize natural light.

The new library will continue serving the same population as before: 350 medical school faculty and other academic personnel, 300 residents, 450 medical students, 420 School of Nursing faculty and students, and 800 School of Health Related Professions faculty and students.

In addition, physicians in outstate Missouri have access to the library's resources through the Mid-Continental Regional Library program that connects with the latest information on the Medline data base, compiled by the National Library of Medicine.

■ **Jack Curtis, M.D.,** associate professor and chief of cardiothoracic surgery, was guest speaker at the Neurovascular Society of North America/Society for Neurovascular Surgery in Chicago. His talks were on "Importance of the Presence and Timing of Atrial Transport in Cardiac Pacing" and "Cardiac Sinus Hypersensitivity."

■ **Kim Wise, Ph.D.,** associate professor of microbiology, and **Mark McIntosh, Ph.D.,** assistant professor of microbiology, have been awarded $140,000 from the US Department of Agriculture for a study of immunologic and molecular genetic determinants in mycoplasmal pneumonia of swine.

■ **Robert Frank, Ph.D.,** assistant professor of physical medicine and rehabilitation, is the first author of an article on "Depression and Adrenal Function in Spinal Cord Injury" in the *Journal of Psychiatry*. Dr. Frank presented the paper "Gender Differences in the Interpersonal Response to Spinal Cord Injury" at the American Psychological Association meeting in Los Angeles.

■ **Carl Ide, M.D.,** professor of ophthalmology, presented a paper at the annual meeting of the Austrian Ophthalmological Society in Graz, Austria. He also was a guest professor in ophthalmology at the University of Munich, West Germany.

■ **Bruce E. Harry, M.D.,** assistant professor of psychiatry and adjunct assistant professor of law, presented two papers at the American Academy of Forensic Sciences in Las Vegas. The topics were "Occurrence of Post-Traumatic Stress Syndrome Among Murderers" and "Technical and Legal Aspects of Forensic Evaluations of Deaf Offenders."

■ **Barry J. Gainor, M.D.,** assistant professor of orthopedic surgery, has co-written an article, "A Profile of Metastatic Carcinoma of the Spine," in *Spine*, Vol. 10, 1985, and "Correction of Rheumatoid Swan Neck Deformity by Lateral Band Mobilization" in Vol. 10A, 1985, of *The Journal of Hand Surgery* and wrote "Osteocutaneous Digital Fillet Flap. A Technical Modification" in Vol. 10B, 1985, of *The Journal of Hand Surgery.*

■ **Kenneth Keown, M.D.,** founder of the Department of Anesthesiology at the University of Missouri-Columbia (UMC) School of Medicine, died Sept. 15, 1985, in Columbia. He was 68 years old.

Dr. Keown, professor emeritus, formed the Department of Anesthesiology after joining the faculty of the UMC School of Medicine in 1957. He served as department chair for 12 years before becoming medical director of the University Medical Center.

He helped perfect anesthesia techniques for heart surgery in the 1950s and wrote two medical texts: *Surgery of the Heart* and *Anesthesia for Surgery of the Heart*.

Dr. Keown was active in several professional organizations; he was a member of the Board of Governors of the American College of Anesthesiologists from 1955 to 1961, first vice president of the American Society of Anesthesiologists in 1960-1961 and had chaired the Board of Trustees of the International Anesthesia Research Society since 1967.

His honors included the UMC Faculty-Alumni Award, the Distinguished Alumni Award from Graceland College, and the Billings Award from the American Medical Association.

Memorial contributions may be made to the Kenneth K. Keown Outstanding Anesthesiology First-Year Resident Physician Award, in care of the Office of Development at the University of Missouri-Columbia, 117 Alumni Center, Columbia, MO 65211, or to the Drs. Charles and Kenneth K. Keown Scholarship Fund at Graceland College in care of the Development Office, Lamoni, Iowa 50140.

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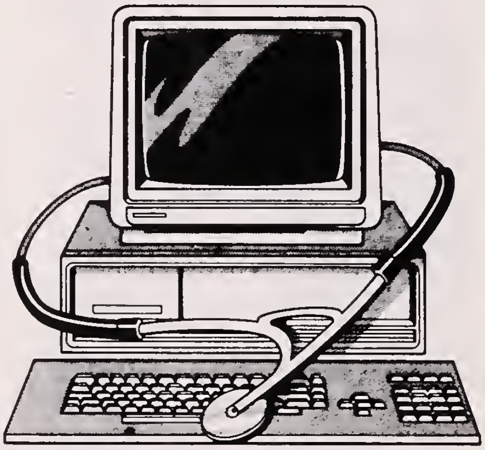

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November

7-8 **COPD — Insight to Successful Management** — Location: Columbia, Missouri. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

7-9 **Annual Fall Conference** — Location: Kansas City Alameda Plaza Hotel. Contact: Alta L. Bingham, Executive Director, Kansas City Southwest Clinical Society, 2220 Holmes, Kansas City 64108. 816-276-1339.

8 **Advanced Cardiac Life Support Instructor Course** — Location: University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-4480.

8 **Dementia** — Location: Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

11 **MR Contrast Agents** — City-Wide Radiology Conference. Location: Mallinckrodt Institute of Radiology. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 S. Kingshighway, St. Louis 63110. 314-362-7100.

11-15 **Certification Exam in Infection Control** — Location: Columbia Holiday Inn West. Contact: Weldon D. Webb, University of Missouri-Columbia, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

14-15 **Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: University of Kansas Medical Center. Contact: Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow, Kansas City, KS 66103. 913-588-4480.

15 **Advanced Trauma Life Support Refresher Course** — Location: University of Kansas Medical Center. Contact: Mrs. Jody Scott, Dept. of Surgery, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-6124.

15 **Fall Symposium on Advances in Cancer Prevention, Treatment and Epidemiology** — Location: Ellis Fischel State Cancer Center. Contact: Janice Gentile, Director of Program Development, 115 Business Loop 70 West, Columbia 65201. 314-875-2100, ext. 398, or 1-800-392-2545.

15-17 **Twelfth Annual Symposium: Anesthesia and the Geriatric Patient** — Location: Washington University School of Medicine. Contact: Geriatric Symposium, Dept. of Anesthesiology, Washington University School of Medicine, 660 S. Euclid Ave., St. Louis 63110.

21 **Provocative Inhalation Challenge and Hyperreactive Upper and Lower Airways** — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, St. Louis 63110. 314-362-6893.

21-22 **Obstetrics and Gynecology for the Primary Physician** — Location: Kansas City Alameda Plaza Hotel. Contact: Christy Snow, Coordinator, University of Missouri-Kansas City School of Medicine, 2220 Holmes, Kansas City 64108. 816-276-1339.

TBA **Pediatric Neurology for the Practicing Physician** — Location: St. Louis University Learning Resources Center. Contact: Anita Herbst, St. Louis University School of Medicine, CME, 1402 S. Grand Blvd., St. Louis 63104. 314-664-9800.

December

4 **Endocrinology and Metabolism** — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City, MO 64132. 816-276-4306.

5-7 **The Heart 1985** — Location: Kansas City Alameda Plaza Hotel. Contact: Christy Snow, Coordinator, University of Missouri-Kansas City School of Medicine, 2220 Holmes, Kansas City 64108. 816-276-1339.

9 **Computed Tomography of the Adrenal Glands** — City-Wide Radiology Conference. Location: Mallinckrodt Institute of Radiology. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 S. Kingshighway, St. Louis 63110. 314-362-7100.

13-14 **Low Back and Sciatic Pain: Evaluation and Treatment** — Location: Washington University School of Medicine. Contact: Loretta Giacoletto, CME Office, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis 63110. 314-362-6893.

19-20 **Advanced Trauma Life Support Provider Course** — Location: University of Kansas Medical Center. Contact: Mrs. Jody Scott, Dept. of Surgery, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-6124.

January 1986

5-10 **Practical Management of Patients with Infectious Disease: A Case-Oriented Approach** — Location: Keystone, Colorado. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis 63110. 314-362-6893.

8-14 **Obstetrics & Gynecology: Practical Aspects in** Patient Care — Location: Maui, Hawaii. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis 63110. 314-362-6893.

10-12 **Pan American North American Course** — Location: Key Biscayne, Florida. Contact: Felix N. Sabates, M.D., Truman Medical Center, 2301 Holmes St., Kansas City 64108. 816-556-3501.

13 **City-Wide Radiology Conference** — Location: St. Louis University. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway, St. Louis 63110. 314-362-7100.

13-15 **Consensus Development Conference on the Health Implications of Smokeless Tobacco Use** — Location: National Institutes of Health, Bethesda, Maryland. Contact: Barbara McChesney, Prospect Associates, Suite 401, 2115 East Jefferson St., Rockville, MD 20852. 301-468-6555.

February

5 **Thermal Illnesses and Acclimatization** — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

5-7 **Sixth National Conference on CAPD** — Location: Kansas City Westin Crown Center. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

7-8 **Midwinter Laser Workshop: Lasers for the Posterior Segment** — Location: St. Louis. Contact: Jeanne B. Toma, Retina Research & Development Foundation, 4949 Barnes Hospital Plaza, East Pavilion, Suite 17413, St. Louis 63310. 314-367-1181.

10 **City-Wide Radiology Conference on "Update on the Treatment of Symptomatic Urolithiasis"** — Location: Mallinckrodt Institute of Radiology, St. Louis. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway, St. Louis 63110. 314-362-7100.

11-12 **Critical Care Symposium** — Location: Columbia, Missouri. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

March

7-8 **Family Practice Update** — Location: UMC Alumni Center. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

7-9 **Organizational Systems** — Location: UMC Memorial Union. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

10 **City-Wide Radiology Conference on "Critical Appraisal of the MRI Experience in Neuroradiology, 2000 Consecutive Cases"** — Location: Mallinckrodt Institute of Radiology, St. Louis. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway Blvd., St. Louis 63110. 314-362-7100.

10-11 **32nd Annual Urology Seminar** — Location: Kansas City Westin Crown Center. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

April

4 **Cardiology** — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

4-6 **Diabetes Mellitus** — Location: Tan-Tar-A, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

10-12 **Pediatric Ophthalmology and Strabismus — 1986 International Symposium** — Location: Kansas City. Contact: David Braverman, M.D., Truman Medical Center, 2301 Holmes St., Kansas City 64108. 816-556-3501.

14 **Leroy Sante Lecture** — Location: St. Louis University. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway Blvd., St. Louis 63110. 314-362-7100.

25-26 **Primary Pediatrics** — Location: Columbia, Missouri. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

May

9 **Stroke** — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

9-11 **Ninth Annual Missouri Cardiovascular Conference** — Location: Tan-Tar-A, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

12 **City-Wide Radiology Conference on "Managing a Radiology Department"** — Location: Mallinckrodt Institute of Radiology, St. Louis. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway Blvd., St. Louis 63110. 314-362-7100.

June

4 **Pulmonary Disease** — Location: The Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

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BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR.)*
INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**
DESCRIPTION. Inderal LA is formulated to provide a sustained release of propranolol hydrochloride Inderal LA is available as 80 mg, 120 mg, and 160 mg capsules
CLINICAL PHARMACOLOGY. INDERAL is a nonselective beta-adrenergic receptor blocking agent possessing no other autonomic nervous system activity It specifically competes with beta-adrenergic receptor stimulating agents for available receptor sites When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately

INDERAL LA Capsules (80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL tablets The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially

INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product INDERAL LA can provide effective beta blockade for a 24-hour period

The mechanism of the antihypertensive effect of INDERAL has not been established Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output, (2) inhibition of renin release by the kidneys, and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain Although total peripheral resistance may increase initially, it readjusts to or below the pretreatment level with chronic use Effects on plasma volume appear to be minor and somewhat variable. INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients

In angina pectoris, propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate, systolic blood pressure, and the velocity and extent of myocardial contraction Propranolol may increase oxygen requirements by increasing left ventricular fiber length, end diastolic pressure and systolic ejection period The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity

In dosages greater than required for beta blockade, INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential The significance of the membrane action in the treatment of arrhythmias is uncertain

The mechanism of the antimigraine effect of propranolol has not been established Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain

Beta receptor blockade can be useful in conditions in which, because of pathologic or functional changes, sympathetic activity is detrimental to the patient But there are also situations in which sympathetic stimulation is vital For example, in patients with severely damaged hearts, adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved In the presence of AV block, greater than first degree, beta blockade may prevent the necessary facilitating effect of sympathetic activity on conduction Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm

Propranolol is not significantly dialyzable
INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension, it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic INDERAL LA is not indicated in the management of hypertensive emergencies

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina palpitations, and syncope INDERAL LA also improves exercise performance The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation Clinical improvement may be temporary
CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL
WARNINGS. CARDIAC FAILURE Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually if possible)

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors

MAJOR SURGERY The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, e g, dobutamine or isoproterenol However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers

DIABETES AND HYPOGLYCEMIA Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes In these patients, it may be more difficult to adjust the dosage of insulin

THYROTOXICOSIS Beta blockade may mask certain clinical signs of hyperthyroidism Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm Propranolol does not distort thyroid function tests

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker In one case this resulted after an initial dose of 5 mg propranolol
PRECAUTIONS. *General* Propranolol should be used with caution in patients with impaired hepatic or renal function INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies

Beta adrenoreceptor blockade can cause reduction of intraocular pressure Patients should be told that INDERAL may interfere with the glaucoma screening test Withdrawal may lead to a return of increased intraocular pressure

Clinical Laboratory Tests Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase

DRUG INTERACTIONS Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension

Carcinogenesis, Mutagenesis, Impairment of Fertility Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity There were no drug-related tumorigenic effects at any of the dosage levels Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug

Pregnancy Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose

There are no adequate and well-controlled studies in pregnant women INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus

Nursing Mothers INDERAL is excreted in human milk Caution should be exercised when INDERAL is administered to a nursing woman

Pediatric Use Safety and effectiveness in children have not been established
ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy

Cardiovascular bradycardia, congestive heart failure, intensification of AV block, hypotension, paresthesia of hands, thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type

Central Nervous System lightheadedness, mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia, visual disturbances, hallucinations, an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics

Gastrointestinal nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis

Allergic pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress

Respiratory bronchospasm

Hematologic agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura

Auto-Immune In extremely rare instances, systemic lupus erythematosus has been reported

Miscellaneous alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol
DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily If patients are switched from INDERAL tablets to INDERAL LA capsules, care should be taken to assure that the desired therapeutic effect is maintained INDERAL LA should not be considered a simple mg for mg substitute for INDERAL INDERAL LA has different kinetics and produces lower blood levels Retitration may be necessary especially to maintain effectiveness at the end of the 24-hour dosing interval

HYPERTENSION—*Dosage must be individualized*. The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic The dosage may be increased to 120 mg once daily or higher until adequate blood pressure control is achieved The usual maintenance dosage is 120 to 160 mg once daily In some instances a dosage of 640 mg may be required The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks

ANGINA PECTORIS—*Dosage must be individualized* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three to seven day intervals until optimum response is obtained Although individual patients may respond at any dosage level, the average optimum dosage appears to be 160 mg once daily In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS)

MIGRAINE—*Dosage must be individualized* The initial oral dose is 80 mg INDERAL LA once daily The usual effective dose range is 160-240 mg once daily The dosage may be increased gradually to achieve optimum migraine prophylaxis If a satisfactory response is not obtained within four to six weeks after reaching the maximum dose, INDERAL LA therapy should be discontinued It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily
PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use

REFERENCES

1. Holland OB, Nixon JV, Kuhnert L: Diuretic-induced ventricular ectopic activity. *Am J Med* 1981;70:762-768. **2.** Holme I, Helgeland A, Hjermann I, et al: Treatment of mild hypertension with diuretics. The importance of ECG abnormalities in the Oslo study and in MRFIT. *JAMA* 1984;251:1298-1299

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Thirty-three MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the month of August 1985. The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

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In Memoriam

■ **Kenneth K. Keown, M.D.,** 106 West Burnam Road, Columbia 65203; graduate of Hahnemann Medical College, 1941; member of the Boone County Medical Society; age 68; died September 17, 1985.

■ **Joseph A. Nigro, M.D.,** 5715 Windsor Drive, Shawnee Mission, Kan. 66205; graduate of the St. Louis University, 1942; member of the Jackson County Medical Society; age 68; died September 1, 1985.

■ **Hubert M. Parker, M.D.,** 1200 West Red Bridge Road, Kansas City 64114; graduate of Rush Medical College; 1927; member of Jackson County Medical Society; age 84; died August 9, 1985.

■ **Elrie P. Rodgers, M.D.,** 202 South Glenwood, Columbia 65203; graduate of Washington University, 1944; member of the Boone County Medical Society; age 64; died July 14, 1985.

■ **Don J. Silsby, M.D.,** 800 East Brookside, Springfield 65807; graduate of Washington University, 1932; member of the Greene County Medical Society; age 80, died August 14, 1985.

■ **Paul R. Whitener, M.D.,** 15201 Olive Boulevard, Chesterfield 63017; graduate of Washington Unviersity, 1924; member of the St. Louis Metropolitan Medical Society; age 83; died September 6, 1985.

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New Members

■ **W. Kent Barr, M.D.,** 2929 Baltimore, Suite 415, Kansas City 64108, has become a member of the Jackson County Medical Society. Dr. Barr received his preliminary education at Creighton University and his medical degree at Creighton University in 1978. He completed his residency training at the University of Kansas Medical Center, Kansas City, Kan. He specializes in cardiovascular diseases.

■ **Thomas J. Fox, M.D.,** 1031 Bellevue, Suite 200, St. Louis 63117, has become a member of the St. Louis Metropolitan Medical Society. Dr. Fox received his preliminary education at John Carroll University and his medical degree at the University of Missouri-Columbia in 1979. He completed his residency training at the University of Iowa, Iowa City, Iowa. He specializes in orthopaedic surgery.

■ **Frances L. Gray, M.D.,** 4900 Swope Parkway, Kansas City 64130, has become a member of the Jackson County Medical Society. Dr. Gray received his preliminary education at Peabody College and his medical degree in St. Louis University in 1981. He completed his residency training at Children's Mercy Hospital, Kansas City. He specializes in pediatrics.

■ **Anne M. Hubbard, M.D.,** Children's Mercy Hospital, 24th and Gillham, Kansas City 64108, has become a member of the Jackson County Medical Society. Dr. Hubbard received her preliminary education at the University of Nebraska and her medical degree at the University of Nebraska. She completed her residency training at the Medical College of Wisconsin, Milwaukee, Wis. She specializes in radiology.

■ **Gerry A. Love, M.D.,** 4900 Raytown Road, #135, Kansas City 64133, has become a member of the Jackson County Medical Society. Dr. Love received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1984. He is completing his residency training at the University of Missouri-Kansas City Affiliated Hospitals. He specializes in internal medicine.

■ **Rebecca R. Lueckenhoff, M.D.,** 1314 Edgewood, Jefferson City 65101, has become a member of the Cole County Medical Society. Dr. Leuckenhoff received her preliminary education at Lincoln University and her medical degree at the University of Missouri-Columbia in 1982. She completed her residency training at the University of Missouri-Columbia. She specializes in family practice.

■ **Thomas E. McGurk, M.D.,** 1010 Carondelet, Kansas City 64114, has become a member of the Jackson County Medical Society. Dr. McGurk received his preliminary education at the University of Kansas and his medical degree at the University of Missouri-Columbia in 1965. He completed his residency training at the University of California Medical Center, San Francisco. He specializes in psychiatry.

■ **Rashmi R. Nakra, M.D.,** 16428 Pavilion, 4949 Barnes Hospital Plaza, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Nakra received her preliminary education at Delhi University and her medical degree at Lady Hardinge Medical College for Women in 1972. She completed her residency training at the Washington University Medical Center, St. Louis. She specializes in psychiatry.

■ **Terry L. Ray, D.O.,** 1506 East Broadway, Columbia 65201 has become a member of the Boone County Medical Society. Dr. Ray received his preliminary education at Eastern Michigan University and his osteopathic degree at Kirksville College of Osteopathic Medicine in 1975. He completed his residency training at Flint Osteopathic Hospital, Flint, Mich. He specializes in anesthesiology.

■ **Thomas D. Robbins, M.D.,** 913A Leslie Blvd., Jefferson City 65101, has become a member of the Cole County Medical Society. Dr. Robbins received his preliminary education at Westminister College and his medical degree at the American University of the Caribbean in 1982. He completed his residency training at the Lutheran Medical Center, St. Louis. He specializes in family practice.

■ **Robert O. Schaaf, M.D.,** 313 South 169 Highway, Gower 64454, has become a member of the Buchanan County Medical Society. Dr. Schaaf received his preliminary education at Missouri Western State College and his medical degree at St. Louis University in 1983. He completed his internship at St. Luke's Hospital, Kansas City. He specializes in general practice.

■ **Jon Paul Schrage, M.D.,** 2002 Missouri Blvd., Department of Mental Health, Jefferson City 65101, has become a member of the Boone County Medical Society. Dr. Schrage received his preliminary education at the University of Wisconsin and his medical degree at the Medical College of Wisconsin in 1975. He completed is residency training at University of Missouri-Columbia. He specializes in internal medicine.

■ **Stephen M. Schoeppel, M.D.,** 2902B McClelland Blvd, Suite 10, Joplin 64801, has become a member of the Jasper County Medical Society. Dr. Schoeppel received his preliminary education at Oklahoma State University and his medical degree at University of Oklahoma in 1982. He completed his residency training at the University of Oklahoma Health Science Center. He specializes in anesthesiology.

■ **Bruce E. Weaver, D.O.,** 1506 E. Broadway, Suite 302, Columbia 65205, has become a member of the Boone County Medical Society. Dr. Weaver received his preliminary education at Baylor University and his osteopathic degree at Kansas City College of Osteopathic Medicine in 1969. He completed his residency training at Lakeside Osteopathic Hospital, Kansas City. He specializes in anesthesiology.

■ **Mark E. Young, M.D.,** 4320 Wornall Road, Suite 420, Kansas City 64111, has become a member of the Jackson County Medical Society. Dr. Young received his preliminary education at the University of Kansas and his medical degree at Tulane University in 1980. He completed his residency training at the University of Missouri, Kansas City. He specializes in plastic and reconstructive surgery.

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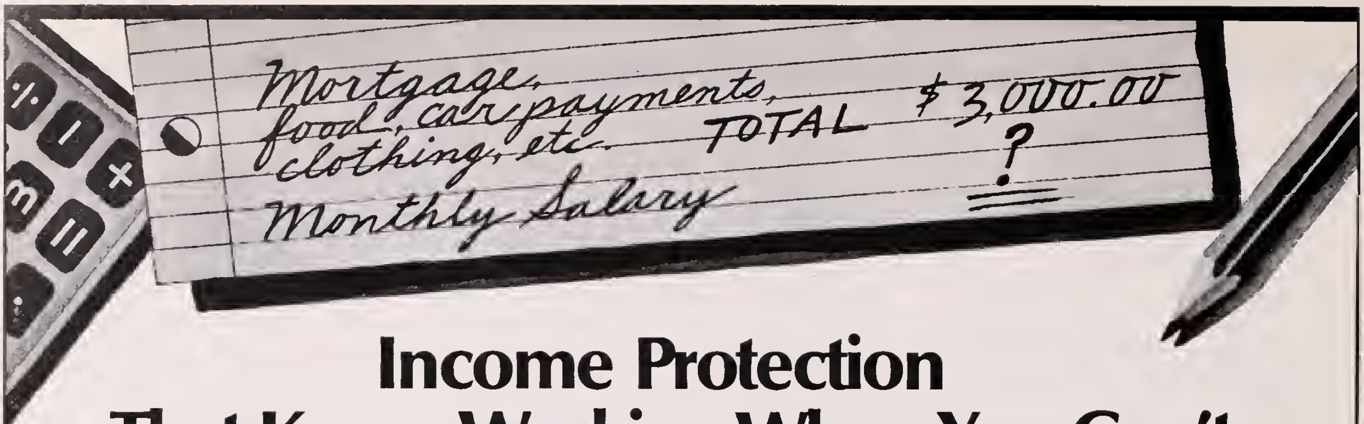

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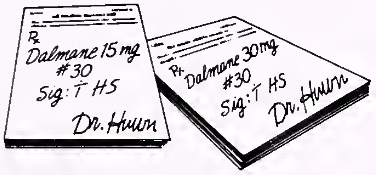

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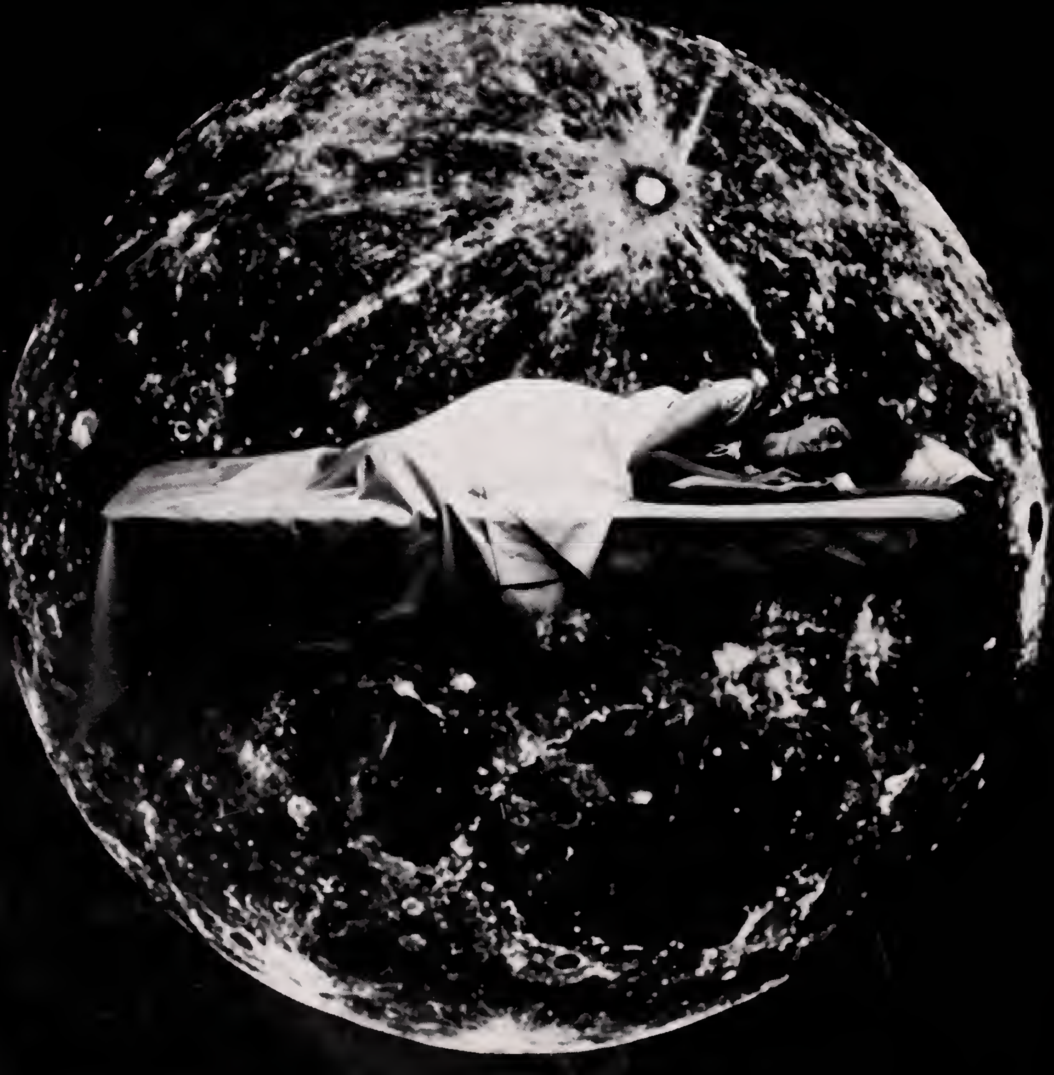

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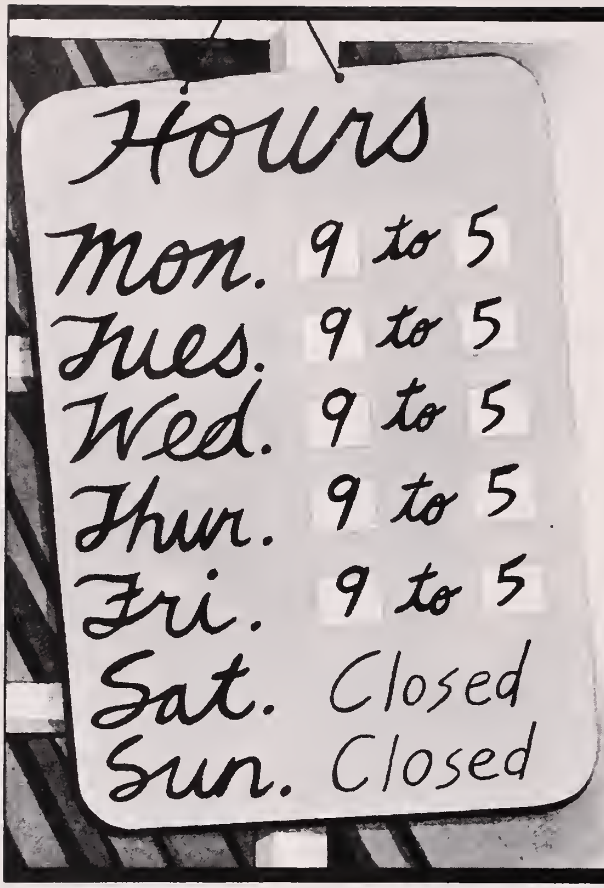

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Subscription rates: $15 per year. Interns and Residents, $7.S0 per year.

Second class postage paid at Jefferson City, Missouri and at additional mailing offices.

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MSMA Progress Notes

MDs ready to act on malpractice crisis

An overwhelming majority of Missouri physicians are willing to take action on the reform of laws governing professional liability, a recent survey shows.

The survey, conducted by Market Opinion Research, Detroit, for Medical Defense Associates, MSMA and MOMEDICO, showed 97% of survey respondents said they "would" or "might" be willing to write to their legislators and 85% said they would call lawmakers about the current malpractice crisis.

In addition, a whopping 93% of physicians said they "would" or "might" contribute to a special fund for pushing legislative reform.

Asked what issues facing Missouri physicians they considered "most important," 41% of the 1,532 respondents named some facet of the malpractice crisis. Out of seven possible issues, medical professional liability was singled out as the most pressing by 63% of the physicians.

On the question of whether Missouri laws governing professional liability need change, a full 83% said they require "substantial" change. Another 11% said the laws need "some" change. A majority agreed the legislature is the best possible venue for change (59%).

Other possible actions receiving the physicians' support included inviting legislators to medical staff and medical society meetings (87%), and talking to patients about malpractice (85%). Seventy-two percent said they "would" or "might" be willing to attend a physician rally at the Capitol. The respondents felt less affirmative about circulating a petition to the public, with only 58% saying they favored participation in the effort.

As might be expected, a substantial proportion of physicians who indicated they are personally willing to take action on this issue are practicing in relatively high-risk malpractice categories. However, an almost equal percentage of action-oriented physicians come from low-risk categories (40% high-risk vs. 42% low-risk).

In addition, the majority of "active" physicians come from outstate Missouri (46%), compared with 37% from St. Louis City and County and 17% from Jackson County.

A breakdown of survey respondents by medical specialty shows 13% are family practice; 10% internal medicine; 9% Ob/Gyn; 8% general surgery; 6% pediatrics; and 6% radiology.

The survey, which was mailed to 6,000 practicing Missouri physicians, was completed in mid-September. ■

Resolutions must be received by Feb. 15

MSMA members, component medical societies and medical student delegates who wish to introduce resolutions at the 1986 Annual Convention of the Missouri State Medical Association must submit their resolutions by February 15, 1986, for insertion in the Delegates Handbook.

Resolutions should be sent to MSMA, P.O. Box 1028, Jefferson City, MO 65102.

Any resolution introduced after that time must be made available to the House of Delegates 24 hours before the session in which it is to be introduced. Sufficient copies of the resolution must be supplied by the individual or society sponsoring the resolution.

At the second session of the House, the same procedure must be followed, but introduction requires two-thirds approval of the House of Delegates. Unanimous approval is needed for introduction at the final session.

The Missouri State Medical Association's 128th Annual Convention will be held April 3-6, 1986, at the St. Louis Marriott Pavilion Hotel. ■

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Nominations sought for Citizenship Award

The Missouri State Medical Association is seeking nominations for its sixth annual MSMA Citizenship and Community Service Award. The award is designed to honor a civic-minded physician who has contributed significantly to his/her community's betterment.

The award will be presented at the 1986 MSMA Annual Convention, April 3-6, 1986, at the St. Louis Marriott Pavilion Hotel.

Nominations for the award should include a curriculum vitae and a one- or two-page statement about the nominee's qualifications for the award.

All nominations must be received by January 16, 1986. Submit nominations to MSMA, P.O. Box 1028, Jefferson City, MO 65102. ■

Buchanan County medical executive honored for service

Longtime executive secretary of the Buchanan County Medical Society, Edward M. "Eddie" Hirsch, recently received the City of Peace Award from the St. Joseph Community State of Israel Bond organization.

The award recognizes Hirsch's service to and participation in the St. Joseph Jewish community, as well as the community at large.

In addition to his 38 years of service to the Buchanan County medical community, Hirsch has served as president of a number of St. Joseph synagogue and civic groups, including Rotary, American Legion, B'nai B'rith and the Junior Chamber of Commerce.

In conferring the award, the Israel Bond organization called Hirsch "a man who exemplifies everything that is gentle and good in a human being." ■

Robert Harmon, MD named director of Dept. of Health

Robert G. Harmon, M.D., has been named as the director of the Missouri Department of Health by Governor John D. Ashcroft. The Department of Health was established by legislation passed in the General Assembly earlier this year. Dr. Harmon will serve as the first director of the department.

Dr. Harmon, 41, most recently served as director of public health and health officer for Maricopa County in Phoenix, Arizona, for the past three years. He also has been serving as chairman of the Department of Community Medicine at the Maricopa Medical Center and adjunct associate professor in the Department of Family and Community Medicine at the University of Arizona School of Medicine. Dr. Harmon has been president for 2½ years of the National Association of County Health Officials.

Originally from Missouri, Dr. Harmon received his undergraduate degree from Washington University in St. Louis and his medical degree from the Washington University School of Medicine. Dr. Harmon also holds a master's degree in public health from Johns Hopkins University.

Dr. Harmon has worked as a consultant in public health in a number of countries. He also has written articles for numerous publications. ■

Two physicians elected to serve in national positions

Two Missouri physicians have been elected to national posts of their respective specialty organizations.

Charles A. Worley, M.D., an MSMA member from Sweet Springs, was elected vice president of the American Academy of Family Physicians at their annual meeting in October.

Dr. Worley has been in private practice in Sweet Springs since 1953. He helped establish the Community Hospital in Sweet Springs in 1960 and was longtime chief of staff of that institution. He is a Fellow of the Academy and a Diplomate of the American Board of Family Practice.

Peter G. Tuteur, M.D., a St. Louis internist, has been elected to an unexpired term as a member of the Board of Trustees of the American Society of Internal Medicine (ASIM) at their annual meeting in October.

Cited as the 1980 Young Internist of the Year by both ASIM and the Missouri Society of Internal Medicine, Dr. Tuteur serves on ASIM's Health Care Financing Committee. He is past president of the Missouri Society of Internal Medicine and is a Fellow of both the American College of Chest Physicians and the American College of Physicians.

Dr. Tuteur serves as associate professor of medicine at Washington University School of Medicine and as associate physician at Barnes Hospital in St. Louis. ■

Physician's Award to be presented

The Missouri Governor's Committee on Employment of the Handicapped is now accepting nominations for the Physician's Award. This award is given annually to a physician who has made an outstanding contribution in advancing employment opportunities for disabled people.

If you would like more information, contact the Governor's Committee on the Employment of the Handicapped, 1-800-392-8249. ■

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Thomas N. Huck, M.D.
St. Louis

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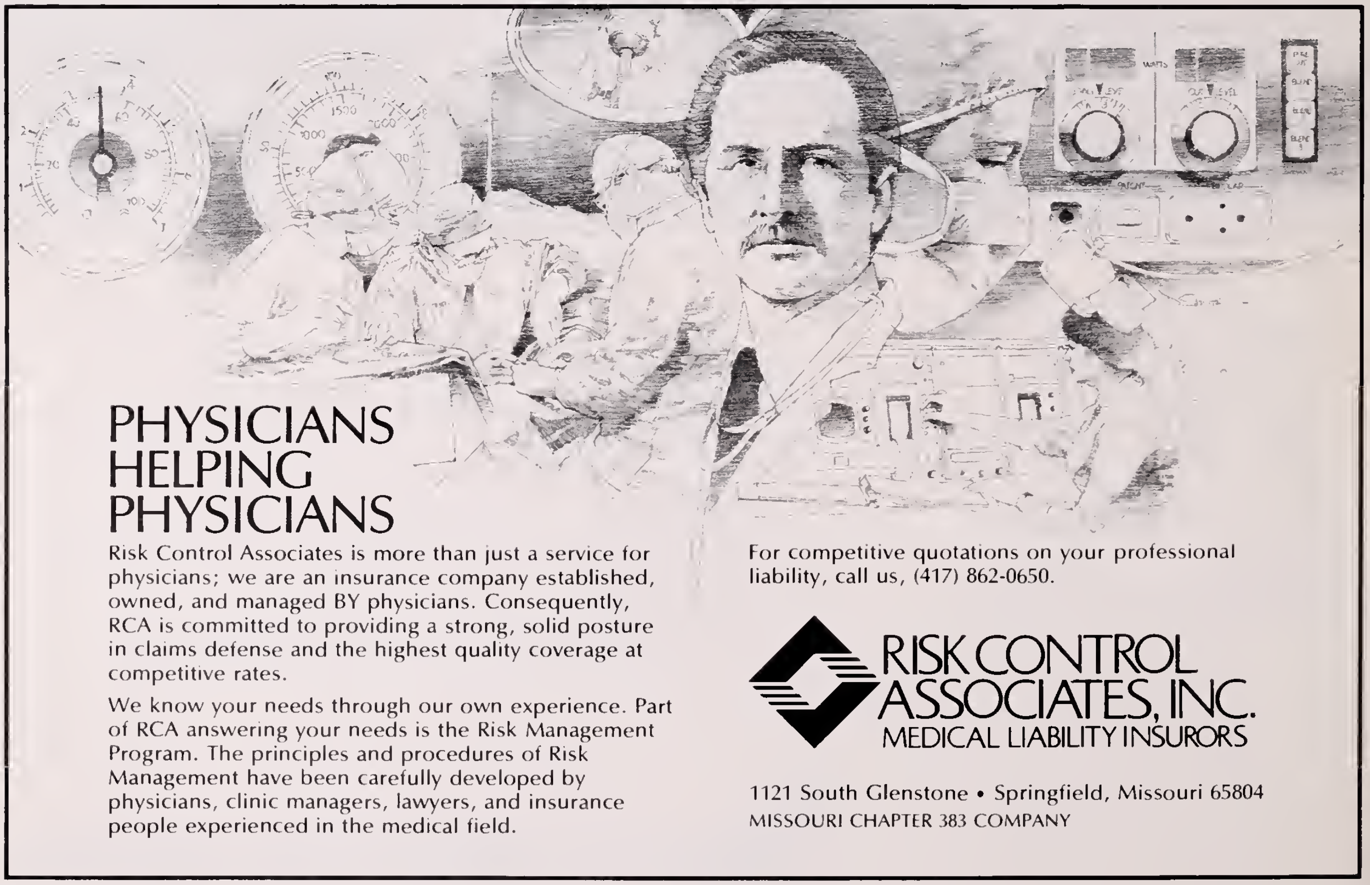

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*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

References:

1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

Reduces angina attack frequency*
42% to 46% decrease reported in multicenter study.[1]

Increases exercise tolerance*
In Bruce exercise test,[2] control patients averaged 8.0 minutes to onset of pain; Cardizem patients averaged 9.8 minutes ($P<.005$).

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(diltiazem HCl)

THE BALANCED CALCIUM CHANNEL BLOCKER

Please see full prescribing information on following page.

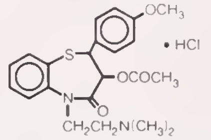
2/84

PROFESSIONAL USE INFORMATION

cardizem®
(diltiazem HCl)
30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+)-cis-. The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM
2. Exertional Angina. CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given, a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy**—CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

Issued 4/1/84

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

If a patient ever gets as far as the hospital, his progress or regress is often more determined by nurses, practical nurses, paramedics, therapists, and medical-legal protocol than by doctors.

Who's playing doctor?

Little boys and girls follow role models, and grow up wanting to become firemen, football players, ballerinas, actresses, and the like. A good percentage of these childhood interests are outgrown, but one career — playing the role of doctor — sometimes seems to die hard. This doesn't have too much to do with going through medical school; formal training or not, it often appears that everyone likes to practice medicine.

Preventive medicine is no longer under the physician's control. Health clubs count their membership in the millions; joggers bounce their joints up and down our streets at all hours. Any hospital which hasn't sponsored a "run" in the last year is obviously totally out of step. From tennis to handball, doctors are at best participants in the great gallop toward glowing health.

When it comes to treating illnesses, it is hard to tell the professional from the amateur. One observed distinction is that physicians will at times admit that they don't know the answer to a medical problem; amateurs always claim to know all the answers.

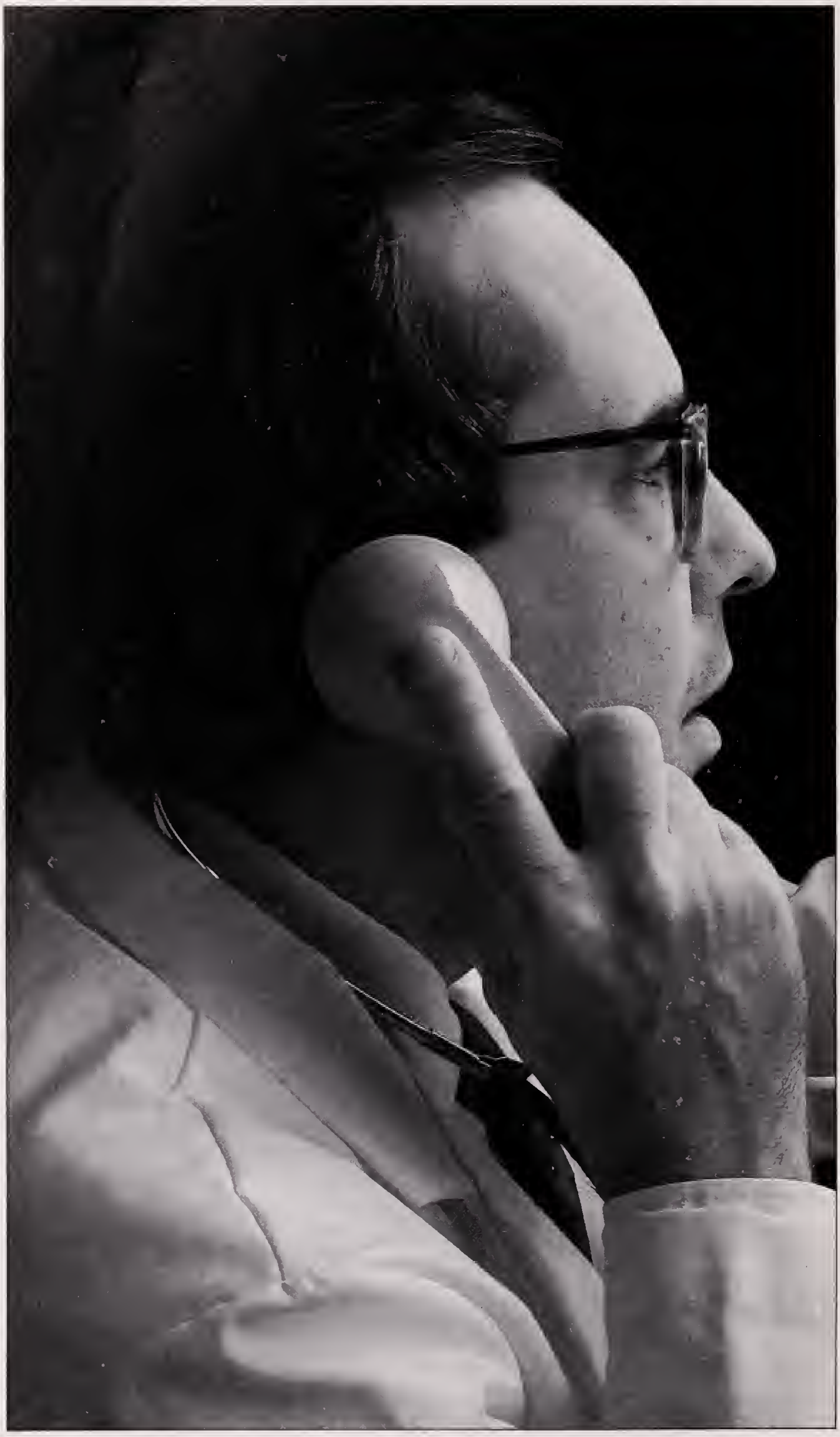
Much medical turf has been sliding for years into the hands of other organized groups. A doctor doesn't dare get within 50 feet of an ambulance; only the paramedics are qualified for medical care under the stimulation of flashing lights and sirens. Don't let a graduate dentist get his hands in your mouth to make a denture — go to a "denturist" for such work. Kick away any orthopod who even eyes your feet — they belong to the chiropodist (or podiatrist or whatever they are). Optometrists occasionally bring bills before state legislatures to make it illegal for medical doctors, i.e. ophthalmologists, to refract eyes — that should be done by a non-MD, the optometrist, they say. And the modern young mother-to-be should know that natural childbirth can be managed best by deep breathing and a midwife, rather than a chauvinistic, board-certified obstetrician.

Practicing medicine has its amateurs as well as its professionals, for that matter. Right at home Grandma has all sorts of tried and true remedies. Friends and neighbors are full of medical advice, too. Everyone in the block knows exactly what to do for a nosebleed; however, rarely do two people agree on what exactly it is that needs to be done. If an ailing person gets as far as the corner drugstore, the pharmacist usually has a nostrum to solve the problem. If he ever gets as far as the hospital, his progress or regress is often more determined by nurses, practical nurses, paramedics, therapists, and medical-legal protocol than by doctors.

In the field of medical research physicians as a group are no longer necessarily the leaders. Doctors of philosophy such as molecular physicists are now guiding much of the work.

Barbers and surgeons are supposed to have split their trades centuries ago. However, an incident which once occurred to this editor at the barber shop illustrates otherwise. The tonsorial artist took one initial look at my scalp, and remarked, "It looks like you've been sick." Like we said, everybody wants to play doctor. ■

The St. Louis Medical Connection



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PRESIDENT'S PAGE

by Walter German, M.D.

Please respond quickly to our calls and do your part to make this venture a success.

Have a merry holiday and prepare for a busy, successful 1986

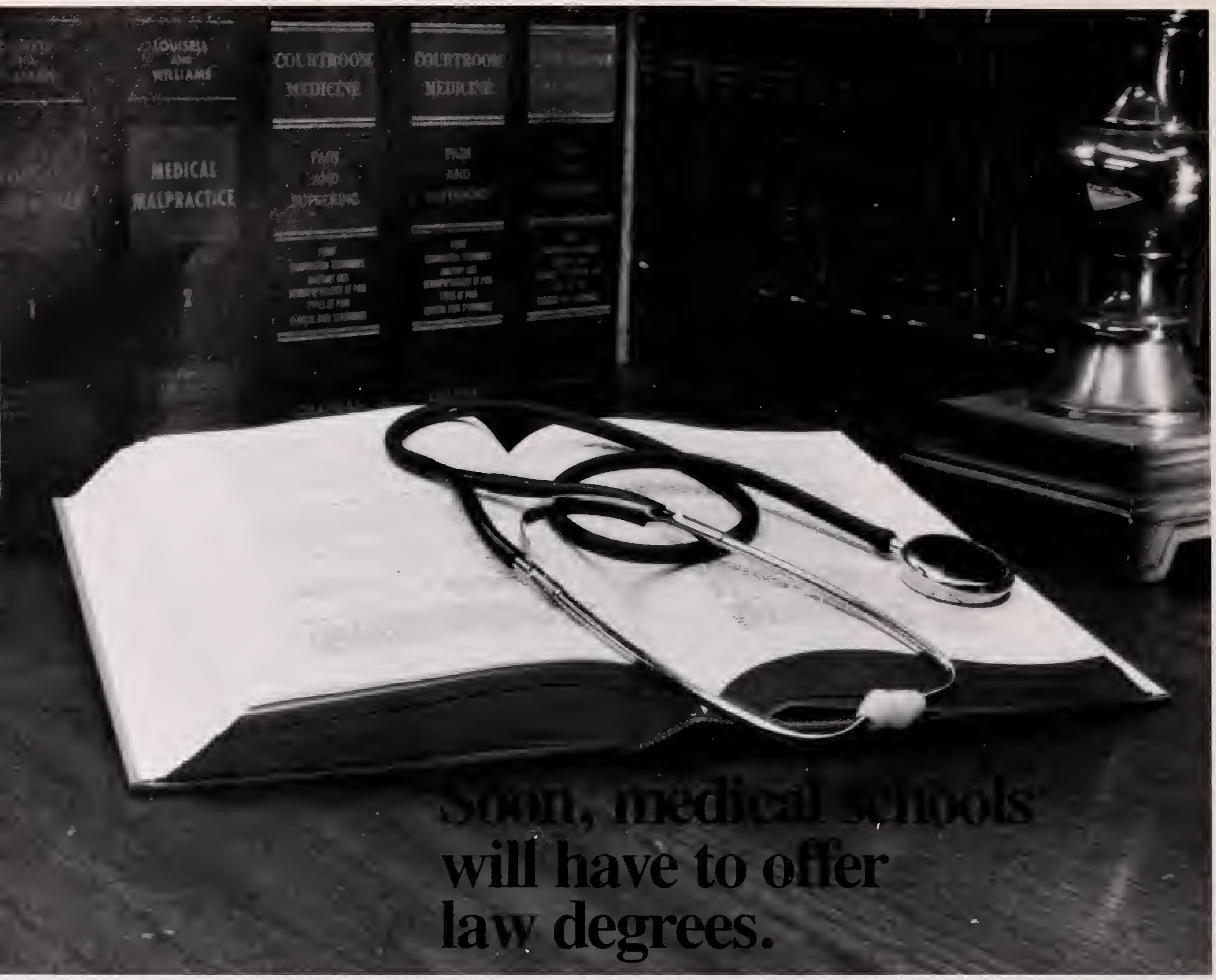
My wife, Taney, joins me in wishing to you and your family a very pleasant and happy holiday. I hope that each of you will get a few days relaxation away from the office and hospital. In this way you will be fresh and ready to join with your colleagues as we begin year 1986. This, hopefully, will be the year that the Missouri health care field will solve our major problem facing us today — medical malpractice.

As many of you are aware, all components of the health care field in the state of Missouri have joined forces and we are now ready to engage the enemy.

Many of you will be called upon to serve as we move forward. Please respond quickly to our calls and do your part to make this venture a success. After all, we are talking about your future in the malpractice field. The Missouri State Medical Association will need your help. ■

Merry Christmas and Happy New Year!

— Walter and Taney



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Auxiliary Message

by Kris Shaw
MSMA Auxiliary
Health Projects chairman

Each county auxiliary is urged to distribute publications suggesting ways to cope with the emotional upheaval that a malpractice claim can bring to the medical family.

Health projects aimed at improved lifestyles

The Missouri State Medical Association Auxiliary is continuing the *"Shape Up For Life"* programs. This year we are emphasizing three major areas of concern.

Promoting awareness and support for the impaired physician and family is a primary goal of the MSMAA for 1985-86. Our purpose is to assist the MSMA Committee on the Impaired Physician by providing information and support to the spouse and family.

Dr. William Stryker spoke to auxiliary members at our Fall Conference about the Impaired Physician. He explained to us the physical and mental complexities of the alcoholic and taught us the signs of alcoholism and the important role the spouse can play in the intervention and recovery of the impaired.

The Auxiliary's second area of concern involves older Americans. Using a kit from the AMA auxiliary, with materials emphasizing projects in nutrition, physical fitness, safe use of medicine, accident prevention, and intergenerational programming, county auxiliaries will be able to serve the special needs of this growing segment of the population. On the state level we have distributed posters, buttons, and brochures conveying the theme that older Americans should not retire from life.

The third focus for the year is organ donation. This year our special project is in conjunction with the Lion's clubs. By collecting discarded eyeglass frames and lenses, the MSMAA is helping to provide sight for needy people. After sorting, the frames and lenses are sent to various points in needy countries. In these countries, an individual's need is determined by an ophthalmologist and the individual then is fitted from the donations. Information on this project has been distributed to each county auxiliary and awards will be presented at the state convention next April.

Of course, our ongoing areas of concern are child abuse prevention, fetal alcohol syndrome, child safety restraint, teenage pregnancy, and chemical substances abuse programs.

Also, focusing on ourselves, each county auxiliary is urged to order and distribute to its members publications suggesting ways to cope with the emotional upheaval that a malpractice claim can bring to the medical family.

Through auxiliary efforts in Health Projects, we hope to keep people healthy, knowledgeable, and active. We want to make a positive impact in our communities and give ourselves support through these changing times in medicine. ■

In My Opinion

Hubert A. Ritter, M.D.

THE CASE FOR Unified Membership WITH THE AMERICAN MEDICAL ASSOCIATION

When asked why state medical associations should unify with the American Medical Association, I say the answer is, very simply, quality health care for the American people. Immediately, I'm certain the skeptics among the members will say, "hog wash!" So let's look at the facts.

The AMA has always been in the forefront of environmental protection.

As early as 1895, the *Journal of the American Medical Association* (JAMA) published an article relating to the pollution of our environment, specifically, Lake Erie.

The AMA is the leader in quality medical education.

In the early 20th century, this country was overrun with medical diploma mills. Armed with the Flexner report, the AMA, along with the Association of American Medical Colleges (AAMC), formed the Liaison Committee for Medical Education (LCME) to accredit medical schools throughout the United States. A giant stride in the quality of medical education ensued.

The AMA is the only source of physician data.

At approximately the same time the LCME was formed, the AMA established the physicians' masterfile. The name of every student entering medical school was entered into this file and his career course recorded.

Today, records are maintained on every physician, whether trained in this country or in a foreign land. Over 500,000 individuals with a medical degree or its equivalent have their professional career constantly monitored by the AMA masterfile computer. One of the most recent benefits of this program was the discovery, and eventual ouster, of unlicensed physicians found to be working in Veteran's Administration hospitals.

The AMA promotes quality medical care.

The AMA together with the American Hospital Association, the American College of Surgeons, the American College of Physicians, the American Dental Association, and a public representative formed the Joint Commission on Hospital Accreditation (JCAH) in the early 1950s.

As well as monitoring the quality of patient care, this committee also assures all physicians of quality institutions in which to work.

The AMA is your lobby in Washington, D.C.

In 1950, the AMA began requiring membership dues. Prior to that time, the AMA survived with money earned from advertising in its medical journals. The federal government decided that these monies were not tax exempt, hence, a dues structure was necessary. It was then that the AMA membership began to show its first decline. Up until that first dues assessment, all physicians were automatically members unless they asked to have their names removed from the AMA rosters. Very few did.

The 1985 MSMA House of Delegates passed a resolution requiring the MSMA Constitution and Bylaws to be changed to require that all MSMA members also be members of the AMA. A final vote on this issue will be taken at the 1986 MSMA Annual Convention.

Hubert A. Ritter, M.D., a St. Louis physician, is a candidate for AMA president-elect.

It was at this same time that the AMA Washington office became more active, not only protecting the interests of physicians, but also their patients. Congress was being persuaded by Harry Truman and some of his allies in the House and Senate that the United States needed a British-type health care system.

Your AMA fought against this then and has continued to fight this issue whenever it rears its ugly head, not because we are interested in protecting physicians' income, but because we are interested in protecting physicians' ability to provide the best care possible to their patients.

Anyone who has visited British hospitals knows that the care is inferior. While visiting Wickersham Hospital just outside of London, Dr. C. Rollin Hanlon, chief executive of the American College of Surgeons, referring to the British chief of surgery said, "This young man is operating in a state of controlled rage." If it had not been for the AMA, all of us would likewise be operating in a state of "controlled rage" today.

We are under constant attack by many members of Congress who do not understand what quality health care means. Now, more than ever, physicians must be united in their efforts to fend off these harsh attacks.

When the AMA speaks, we speak for more than 75% of physicians whether they are members or not. Unfortunately, our congressional adversaries do not believe this and they use actual membership numbers to indicate that only 44% of physicians are represented by the AMA.

Physicians are a minority group represented by the AMA.

We are presently seeing the fragmentation of our health care system because of our unwillingness to unite. It is time for every physician who cares about his patients and about the future of quality medical care to speak with one voice. We've all heard the expression, "union now." Let's go a step further and make our profession "united now." "Unified membership now!" Pay your own way into the future so there will be a future for patients and physicians yet unborn.

Unified membership now.

The unification of component and state medical societies and all of their members with the American Medical Association is paramount if we are to save America's proudest profession. Your future, your patient's future, and the future of the AMA is in the hands of us all.

Unification Now!

■

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Interpretation of Commonly Employed Tests of Liver Function and Integrity

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The interpretation of results of commonly employed liver function tests must be approached with care. Non-hepatic factors can influence any of the measurements. The significance and limitations of the most common tests are reviewed.

Although the principles of testing of liver function and integrity have been well-described, it is our impression that these tests are often misused and poorly understood. When skillfully interpreted, these tests can be extremely helpful, but their limitations must be kept in mind. The tests are often nonspecific, and are commonly affected by non-hepatic factors. When interpreted in the clinical situation, however, these tests may allow a reasonable ordering of the differental diagnosis and suggest an approach to achieving the diagnosis. We present this summary of the common liver tests — the bilirubin, serum enzymes identifying problems of cholestasis and hepatocellular necrosis, and markers of biosynthetic ability — to facilitate the clinician's approach to a broad range of liver diseases.

Bilirubin

The normal metabolism of bilirubin is outlined in Figure 1. This subject is dealt with in great detail elsewhere and will not be covered in depth here.[1-4] The key to understanding is the conjugation step where glucuronides are attached to bilirubin, making it water soluble. Unconjugated hyperbilirubinemia results from defects in bilirubin overproduction (hemolysis), uptake or conjugation (Gilberts and Crigler-Najjar). Conjugated hyperbilirubinemia occurs from defects in bilirubin excretion. We would like to make some points about important details that are often overlooked.

1. Clinical jaundice is not seen until the total bilirubin rises above 2.5 to 3.0 mg/dl.
2. Determination of the conjugated and unconjugated fractions of bilirubin is helpful only if 80% of the total is unconjugated.[2] This large degree of unconjugated bilirubin indicates that the defect is in the conjugation step or one of the steps before the conjugation step.

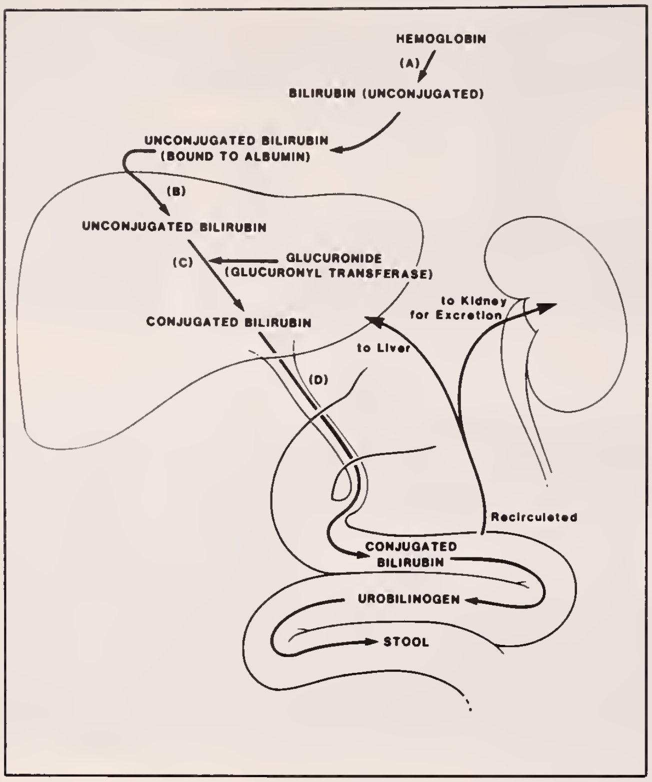

Figure 1: Bilirubin metabolism. Increased hemoglobin breakdown (step A), defective hepatic uptake (step B), or defective conjugation will result in unconjugated hyperbilirubinemia. Step C is the conjugation step. Step D is active secretion of bilirubin into bile. Defects after conjugation will result in conjugated hyperbilirubinemia.

3. After hemolysis, Gilberts disease is the most common cause of unconjugated hyperbilirubinemia. These patients manifest mild elevations in serum bilirubin, usually ≤ 3 mg/dl, have no symptoms other than asymptomatic icterus, and otherwise normal liver function tests. The basic defect is a mild deficiency of glucuronyl transferase. Stress, starvation and alcohol usage not uncommonly will aggravate the jaundice. A more severe form of glucuronyl transferase deficiency occurs in the rare cases of Crigler-Najjar syndrome.
4. In hemolysis, the bilirubin usually does not exceed 5 mg/dl. Levels may be higher, of course, if hypotension, hypoxia or liver disease coexists. Increased bilirubin load or production also may result from other sources of sequestered blood such as tissue hematomas, or retroperitoneal and intraperitoneal bleeding.
5. In cases of unconjugated hyperbilirubinemia, the urine is free of bilirubin.
6. In cases of conjugated hyperbilirubinemia, the urine bilirubin will often be present before the serum bilirubin becomes elevated.
7. Testing for urine urobilinogen, which is markedly decreased or absent in extrahepatic cholestasis, is often unreliable, and has been replaced to a large extent by testing for the various serum enzymes discussed below.[5]

Liver Enzymes

Liver enzyme tests are extremely helpful, not only in differentiating post-hepatic from hepatic disease, but also in distinguishing different hepatic diseases from one another.[5-7] There are two common classes of enzymes used in liver function testing: 1) Those which indicate hepatocellular damage, necrosis — the serum glutamate oxaloacetate transaminase (SGOT) and the serum glutamate pyruvate transaminase (SGPT), 2) those which signify cholestasis — the alkaline phosphatase (ALP) and the gamma glutamyl transpeptidase (GGTP). The transaminases are found in the parenchymal cells of the liver. When disease injures these cells, enzymes are spilled into the circulation. Defects in bile syntheses, secretion or excretion into the liver (disorders of cholestasis) lead to accumulation of bile acids which indirectly induce the synthesis of alkaline phosphatase (ALP).[8] Similarly, the rise in GGTP associated with liver disease is due to induced synthesis of this enzyme.[9]

Markers of Cholestasis

ALP is found in bone, the small intestine and placenta as well as in the liver.[10, 11] Before trying to assess liver disease with the ALP, one should make sure that the elevated ALP is indeed from the liver. A good way to "confirm the ALP" is also to measure the GGTP.[12, 13] If the GGTP is also elevated, it is very likely that the elevated ALP is from the liver. This method of confirmation is easier than determination of isoenzymes and more reliable than the determination of heat labile and heat stable fractions of ALP.[5, 14] The GGTP usually correlates moderately well with the ALP, except in alcoholic liver disease, where the GGTP is sometimes much greater than the ALP.[11] Alcohol induces the synthesis of GGTP. As such, an elevated GGTP can even occur in the absence of significant liver injury, and may be used as a marker of alcoholism.

Diseases involving the biliary tree — diseases of cholestasis, both intrahepatic and extrahepatic — are associated with marked elevation of the ALP and GGTP, whereas those diseases which involve mainly the hepatocytes, such as hepatitis, are usually associated with only mild elevations of the ALP. Infiltrative diseases of the liver due to granulomas, amyloid, or neoplasms are very commonly associated with an elevated ALP.[5, 6] Particularly in the absence of jaundice, an elevated ALP should suggest infiltrative disease. Particular note should be made of the fact that there is a similar degree of elevation of ALP and GGTP with intrahepatic and extrahepatic cholestasis. Differentiation of intrahepatic from extrahepatic cholestasis cannot be done by laboratory tests alone but requires clinical correlation, and the use of appropriate investigative tests such as ultrasound, computed tomography and either percutaneous transhepatic or endoscopic cholangiography.[8, 15]

Markers of Hepatocellular Necrosis

The SGOT and SGPT are markers of hepatocellu-

Table 1

Typical Patterns of Enzyme Elevations in Liver Disease

Enzyme	*Normal*	*Acute hepatocellular injury (viral, toxic)*	*Alcoholic hepatitis*	*Cholestasis*
ALP	(25-97)	120	120	300-1000
SGOT	(0-40)	100-2000	200	200
SGPT	(4-24)	200-4000	50	200
		Cirrhosis	*Infiltrative Disease*	*1° Biliary cirrhosis*
ALP	(25-97)	120	120-1100	20-1200
SGOT	(0-40)	200	20-120	20-120
SGPT	(4-24)	50	0-100	20-120
		Chronic hepatitis	*Mononucleosis*	*Congestive Heart failure*
ALP	(25-97)	40-180	25-150	usually normal
SGOT	(0-40)	50-400	35-400	20-80
SGPT	(4-24)	30-200	35-200	20-80

lar injury. When disease injures the liver cell, these enzymes spill into the circulation. The SGOT is nonspecific and can also be elevated when the kidney, muscles or heart is damaged, whereas the SGPT is relatively, although not entirely, specific for the liver.[6] These enzymes will generally be markedly elevated in viral, toxic or drug-induced hepatitis and moderately elevated in chronic hepatitis and mononucleosis. They are only moderately elevated in cholestasis.[6, 16] The ratio of SGOT to the SGPT is sometimes helpful in the diagnosis of alcoholic liver disease.[7, 17, 18] This ratio is not invariable and must be interpreted in light of the clinical setting. The ratio is almost always greater than 1.0 and often greater than 2.0 in alcoholic liver disease. The ratio is usually less than 1.0 in other forms of liver injury.

It is very important to understand that there are very broad ranges in the values of the serum enzymes seen in each individual disease.[6] For instance, although patients with acute viral hepatitis usually have transaminase levels at least in the hundreds and often in the thousands, they sometimes have only mildly elevated enzyme levels. Thus, a physician should not exclude viral hepatitis from the differential diagnosis because the transaminases are not markedly elevated. Another important point is that the physician can never make a definitive diagnosis by interpreting liver enzymes. For instance, a patient with a "classic" enzyme picture for alcoholic hepatitis may not actually have that disease. A definitive test (either a liver biopsy or resolution of elevated enzymes after avoidance of alcohol) must be done to make the definitive diagnosis. The main use of liver enzymes is in allowing the physician to arrange the differential diagnosis more reliably. Appropriate diagnostic and treatment steps may then be made for a definitive diagnosis.

Serum lactate dehydrogenase (LDH) is often of little value as a liver enzyme test. It is an extremely sensitive test, but since LDH arises from multiple origins such as muscle, kidney and the red cell, it lacks specificity. LDH levels can be elevated by infarcts of the lung and kidney and by muscle trauma or inflammation. Not uncommonly, vacutainer hemolysis at the time of blood testing will lead to elevations of LDH, usually in association with mild elevations of serum potassium. In such situations, the blood must be redrawn and retested before assuming the elevated LDH is of pathologic importance. Significant elevations of the LDH, in the presence of a normal SGOT and SGPT, are common in conditions of intravascular hemolysis (prosthetic valves, DIC, etc.). In vitamin B_{12} and folate deficiency, due to ineffective erythropoiesis, LDH levels are often very high (> 1,000 IU/l), in association with mild elevations in serum bilirubin, ≤ 3 mg/dl. Very high elevations of LDH should also make one suspect widespread hepatic or peritoneal neoplasia.

Table 2

	HBsAg	*Anti-HBcAg*	*Anti-HBsAg*
Acute Hepatitis B	+	+	−
	−	+	−
Recovery (Beyond 6 months)	−	+	+
Chronic Hepatitis B	+	+	−
or			
Carrier State	+	+	−

With these limitations in mind, we may examine "typical" liver enzyme pictures in different disease states (Table 1).[2, 6, 7] In acute hepatocellular injury, there is usually a marked elevation of the transaminases, whereas in cholestatic disease, the ALP and GGTP are markedly elevated with the transaminases only moderately increased. Although none of the enzymes is very elevated in alcoholic hepatitis or cirrhosis, the high SGOT/SGPT ratio is often a clue to the

ILLUSTRATIVE CASES

Case 1

A 47-year-old man presents with jaundice and epigastric discomfort.

Laboratory: Bilirubin 11.0 mg/dl, ALP 180, SGOT 1500, SGPT 1600.

Questions: 1. Into what general class of liver disease does this patient's disease fit?
2. What if the prothrombin time were prolonged?

Answers

1. Acute hepatocellular necrosis. The differential diagnosis was narrowed essentially to toxin-induced, drug-induced and viral hepatitis. Serology provided the answer that he had acute hepatitis B.
2. Prolongation of the prothrombin time, if it did not correct much with vitamin K injection, would indicate significant liver dysfunction.

Case 2

A 50-year-old woman with a history of alcohol abuse presents with jaundice.

Laboratory: Bilirubin 15.0 mg./dl, ALP 160, GGTP 610, SGOT 220, SGPT 50.

Questions: 1. What is the probable diagnosis?
2. Is this "typical" enzyme picture sufficient to make definitive diagnosis?

Answers

1. Alcoholic liver disease. The high SGOT/SGPT ratio and GGTP much greater than the ALP is typical.
2. No. A Biopsy would be needed to make the definite diagnosis. In this case, with a typical history and enzyme pattern, the clinician might prefer to follow the patient to see if the liver enzymes resolve on abstinence from alcohol.

Case 3

A 75-year-old woman has persistent fever and an abnormal chest x-ray.

Laboratory: Bilirubin 0.8 mg/dl, ALP 200, GGTP 180, SGOT 80, SGPT not done.

Question: 1. Does the fact that the liver function tests are only mildly abnormal exclude significant liver disease?

Answer

1. No. This patient had miliary tuberculosis and her liver was filled with caseating granulomas.

Case 4

A 65-year-old man has constipation, weight loss, and occult blood in his stools.

Laboratory: Bilirubin 1.0 mg/dl, ALP 800, GGTP 1000, SGOT 60, SGPT 80.

Question: 1. To what general group of liver diseases might this patient's disease belong?

Answer

1. Infiltrative disease. The marked elevation of ALP with normal bilirubin is a tip-off for infiltrative diseases of the liver. This patient had metastatic colon cancer.

Case 5

A 72-year-old woman presents with nausea and vomiting and jaundice.

Laboratory: Bilirubin 8.0 mg/dl, ALP 1100, GGTP 1000, SGOT 180, SGPT 160.

Questions: 1. To what group of diseases might this patient's disease belong?
2. What would the cholesterol probably be?
3. What if the prothrombin time were prolonged?

Answers

1. Cholestasis (intra-hepatic or post-hepatic). ALP is markedly elevated as in infiltrative disease, but bilirubin is also elevated, in contradistinction to infiltrative disease.
2. The cholesterol may be high in both post-hepatic and intra-hepatic cholestasis. This patient's cholesterol was 330.
3. This might be expected since bile salts are not being delivered to the bowel to solubilize the fat-soluble vitamin K. The prolonged prothrombin time would probably correct with parenteral vitamin K.

probable diagnosis. In alcoholic liver disease, the GGTP is also often much greater than the ALP. Diagnosis of cancer and other infiltrative diseases is often difficult but may be suggested by an elevated alkaline phosphatase level, particularly in the non-jaundiced patient.

In congestive heart failure, the transaminases are usually only mildly elevated (less than 200 IU/l) and the markers of cholestasis are usually normal. Rarely, transaminases in congestive heart failure can be markedly elevated, as high as in acute hepatitis, and this may cause difficulties in diagnosis. Attention to the clinical setting, and the realization that enzyme levels quickly return toward normal as congestive heart failure is treated should alleviate such difficulties.[19]

Tests of Hepatic Synthetic Ability

These tests are mainly useful in indicating the presence of severe liver disease. The albumin and blood urea nitrogen (BUN) are lower in severe liver disease since the damaged liver can no longer carry out its function of making albumin and urea. Cholesterol synthesis is also depressed in severe liver disease, resulting in hypocholesterolemia. Cholesterol may be elevated in cholestasis due to excretory problems. The prothrombin time (PT) may be prolonged in both intrahepatic or extrahepatic disease.[2, 5] The prothrombin time measures the activity of the vitamin K-dependent clotting factors, which are made in the liver. A normal PT requires intact liver cells and an adequate supply of vitamin K. In severe liver disease (usually implying a loss of at least 80% of the liver's biosynthetic ability), the liver is not able to make enough clotting factors to keep the PT normal. In cholestasis, bile salts are not delivered to the gut in adequate amounts to solubilize fat-soluble vitamin K for absorption. Thus, the PT may be prolonged on the basis of vitamin K deficiency and not liver cell inadequacy. These two causes of PT prolongation can often be distinguished from each other by parenteral vitamin K injection. Vitamin K injection will correct the PT in cholestasis, since it will circumvent the problem of malabsorption. Failure of vitamin K injection to totally correct the PT indicates severe hepatocellular disease since the problem here is not vitamin K deficiency, but liver cell inadequacy. Caution must be exercised, however, as mild to moderate hepatocellular disease may be associated with a corrected PT response to vitamin K.

Miscellaneous Tests

A serum protein electrophoresis test in chronic inflammatory disease of the liver or liver cirrhosis often reveals a characteristic pattern of low albumin and/or diffuse hypergammaglobulinemia. Quantitative immunoglobulin measurements usually reveal the elevated gamma globulins to be IgA and IgG. Patients with primary biliary cirrhosis (PBC) characteristically have elevated IgM in 80% of cases, making this test particularly valuable in PBC. Measuring the serum alpha-fetoprotein level is often helpful in suspected cases of hepatoma. An elevation of over 1,000 pg/ml is highly suggestive and occurs in about 50% of patients with primary hepatocellular carcinoma. Lesser elevations occur in non-neoplastic conditions such as chronic hepatitis and alcoholic cirrhosis. A low serum ceruloplasmin level is helpful in confirming homozygous Wilson's disease. In cases of neonatal and infant cholestasis, as well as in cryptogenic cirrhosis in adults, a low alpha-1-antitrypsin level will support a diagnosis of alpha-1-antitrypsin deficiency. A high serum iron and percent iron saturation, and elevated serum ferritin are characteristic of hemochromatosis.

Lastly, serologic tests for Type A and B hepatitis are useful. A detailed discussion of their use is given elsewhere.[2, 20] An elevated IgM antibody to hepatitis A virus will indicate recent Type A hepatitis exposure. Likewise, the presence of a positive hepatitis B surface antigen (HBsAg) or hepatitis B core antigen (HBcAg), in the absence of antibody to hepatitis B surface antigen (anti-HBsAg), will indicate recent exposure, chronic hepatitis B or a persistent carrier state. A positive anti-HBsAg will indicate past exposure but the development of adequate immunity and non-infectivity to hepatitis B. Patients recovered from hepatitis B will characteristically have a positive anti-HBcAg, and anti-HBsAg but negative HBsAg. Table 2 details the possible parameters of hepatitis B testing.

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Reprints

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Thyroid Acropachy

Case Report and Literature Review

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Thyroid acropachy, characterized by soft tissue swelling of the hands and feet with clubbing and periostitis, is an unusual complication of thyroid disease. The report of a typical case in a patient with Graves' disease is followed by a literature review.

Thyroid acropachy, which literally means "thickening of the extremities" is an uncommon complication of thyroid disease. Thomas[1] first used the term in 1933 when he described the development of clubbing and subperiosteal reaction of the phalanges of a 24-year-old black man two years after the onset of Graves' disease. Many reports of similar cases have subsequently strengthened the association of clubbing, soft tissue swelling and periostitis with thyroid disease and no other underlying systemic illness, such as with hypertrophic pulmonary osteoarthropathy. Thyroid acropachy is now a well-defined, but unusual, complication of Graves' disease. We present a case report of a patient who manifests the typical presentation of thyroid acropachy, followed by a review of the literature.

Case Report

A 57-year-old white woman with a 23-year history of Graves' disease presented for evaluation of soft tissue swelling of hands and feet. She had been treated with radioactive ^{131}I in 1960 after the onset of anorexia, weakness, tremor and a diffuse multinodular goiter. She subsequently developed hypothroidism requiring thyroid hormone replacement. She had first noted lower extremity swelling in 1970. She had undergone bilateral tarsorrhaphy with scleral grafting in 1975 and orbital decompression in 1979. It was at this time that she noted swelling of her fingers, more proximally than distally, and thickening of her skin over these areas as well as in the pretibial region. The thickening gradually increased and was accompanied by mild pain with movement. No treatment was thought to be necessary since her symptoms were mild.

Physical examination at presentation in 1984 revealed an obese woman with a pulse of 76 and blood pressure of 117/74. There was bilateral clubbing of the

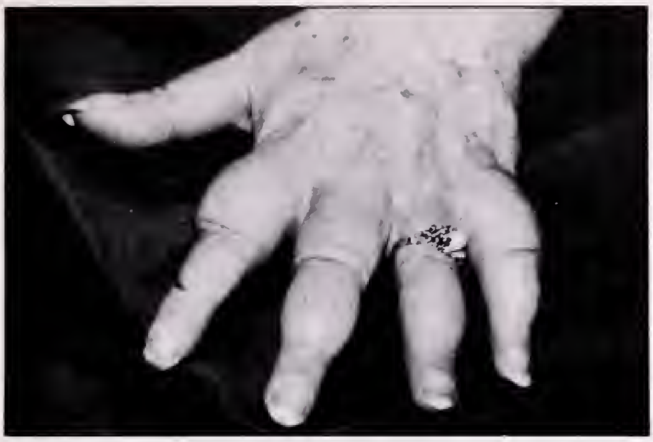

Figure 1. Clubbing of fingers with soft tissue swelling of the hands.

hands and feet and thickened, indurated skin over the dorsum of the fingers, hands and pretibial areas (Fig. 1 and 2). She had Werner Class III exophthalmos. Joint examination findings were normal, except for bony enlargement of the second, third and fifth proximal and distal interphalangeal joints of her hands. Her deep tendon reflexes were 3+ throughout except for the ankles, which were 1+. Relaxation phase was normal. X-rays of the hands revealed the characteristic subperiosteal new bone formation of the phalangeal and metacarpal bones (Fig. 3). Thyroid function studies were normal. LATS was positive.

Discussion

Thyroid acropachy is an unusual complication of thyroid disease manifested by soft tissue swelling of the extremities, clubbing and subperiosteal new bone formation. Although the term acropachy was coined by Högler in 1920 to describe nonetiologic soft tissue and acral bone thickening, Thomas[1] was the first to associate acropachy with thyroid disease. He noted nonpainful clubbing of fingers and toes with subperiosteal reaction in a patient previously treated for Graves' disease, which worsened during four years of observation despite continued normal thyroid function. Since the initial case report approximately 75 cases have been reported in the literature.

Although thyroid acropachy was originally found to occur in patients with previous hyperthyroidism, exophthalmos and pretibial myxedema, it has been noted with hyperthyroidism alone,[2] hypothyroidism[3, 4] and euthyroid exophthalmos.[3-7] Classically, thyroid acropachy develops insidiously weeks to years after diagnosis and treatment of Graves' disease, but the condition has been reported in one patient six years prior to the onset of hyperthyroidism.[2] The age of onset ranges from the third to eighth decade and occurs with equal frequency in males and females. The majority of the patients are euthyroid or hypothyroid at the onset of the acropachy, though a few have been hyperthyroid.[3, 8-11] Thyroid acropachy has developed irrespective of the type of treatment of hyperthyroidism (surgery, ^{131}I or medication) and has developed in patients who have had no treatment. The rate of occurrence has been estimated at .1% to 1% of patients with Graves' disease.[9, 11] Table 1 summarizes the findings of all reported cases.

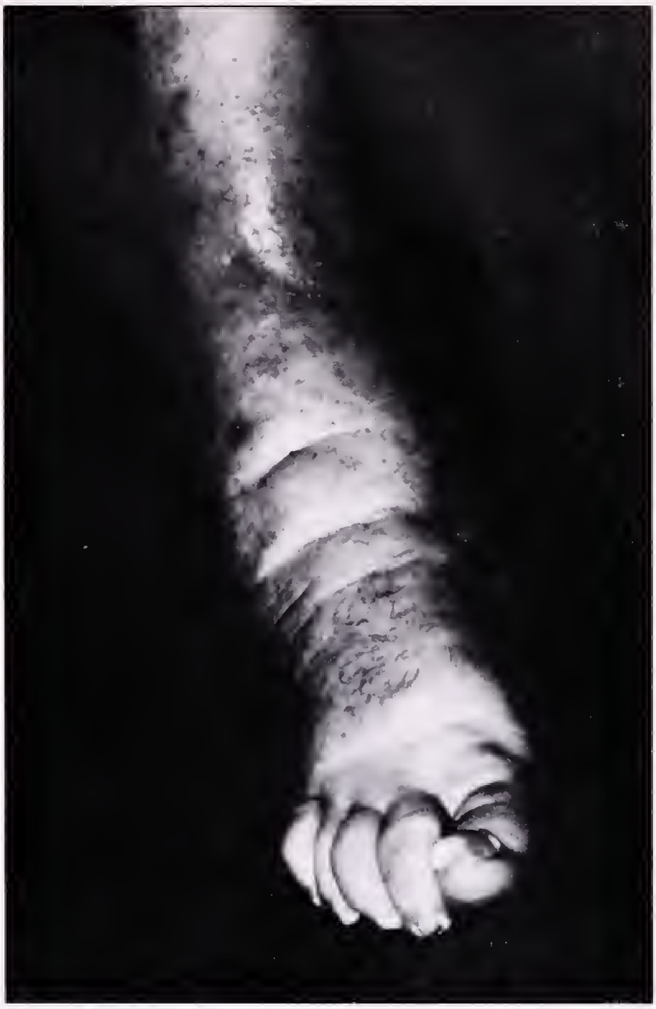

Figure 2. Pretibial myxedema.

The distribution of involvement is usually in the bones of the hands and feet. In the hands, the first, second and fifth metacarpals and the proximal and middle phalanges are most commonly involved, and the first metatarsal and proximal phalanges of the toes are most commonly affected in the feet. It rarely occurs in the long bones of the forearms or the legs.[12] The new bone formation is diaphyseal and most marked in the midportion of the diaphysis. X-rays reveal a characteristic spiculated periosteal proliferation, giving the shaft a fusiform contour. Involvement tends to be asymmetric, and most prominent on the radial aspect of the short bones. Less commonly, the spiculated periosteal reaction is present at the ends of the long bones but is usually less extensive than elsewhere. In one case[3] the radiographic changes improved spontaneously, but in most patients the subperiosteal reaction remains unchanged or increases regardless of the course of the patient's thyroid function or other treatment.

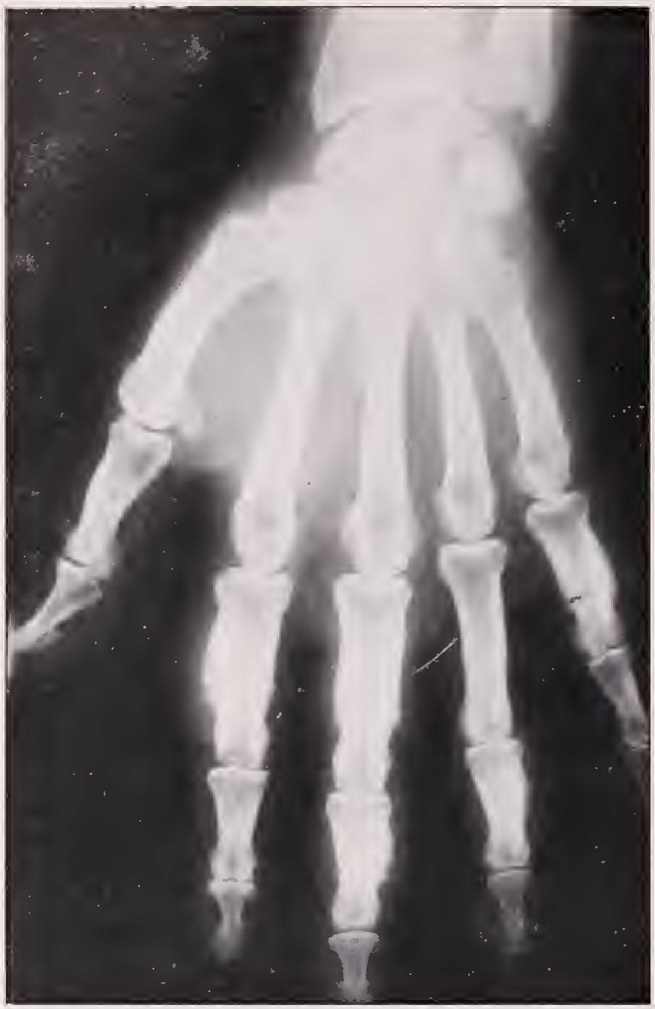

Figure 3. Characteristic asymmetric periosteal reaction of the metacarpal and proximal and middle phalangeal bones.

The results of ^{99m}Tc-pyrophosphate scans have been reported in a few cases.[3, 13, 14] Increased tracer concentration was shown in all areas of radiographic abnormality. Additional uptake was noted in areas with normal X-ray findings, suggesting that skeletal scintigraphy may be a more sensitive tool in the early detection of thyroid acropachy. No longitudinal study has been done, however, to determine whether bone scan findings vary with the course of the disease.

There has been one report of a biopsy of involved bone in a patient with thyroid acropachy.[15] This revealed nodular fibrosis of the periosteum and subperiosteal new bone formation with fibrosis of intervening marrow spaces. No inflammation was noted. Biopsies of skin overlying areas of bone involvement[2, 13, 15-18] have all shown the characteristic findings of pretibial myxedema with slightly hyperkeratotic, acanthotic epidermis with moderate pigmentation and widely separated collagen bundles in the papillary and reticular dermis. An amphophilic to mildly basophilic mucinous material found between the collagen bundles has been shown to contain acid mucopolysaccharides, and particularly, hyaluronic acid.

The differential diagnosis of thyroid acropachy includes pachydermoperiostosis, hypertrophic pulmonary osteoarthropathy, acromegaly, leukemic acropachy, periostitis secondary to vascular disease, osteofluorosis and hyperostosis corticalis generalisata familialis. Pachydermoperiostitis is a familial syndrome occurring mainly in infertile postpubertal males with soft tissue thickening of the hands and face and marked periosteal reaction involving numerous localized areas rather than an entire diaphysis.[19] Hypertrophic osteoarthropathy refers to clubbing of fingers and toes with periostitis at the ends of long bones and signs of autonomic dysfunction such as flushing, sweating and blanching, usually associated with other systemic diseases. Acromegaly causes thickening of soft tissues and widened metacarpals and phalanges but with prominent, spade-shaped distal tufts and widened joint spaces.[20] Leukemic acropachy involves the terminal phalanges, but the metacarpals and proximal phalanges are spared. Periostitis due to occlusive vascular disease is usually limited to the feet and ankles with smooth, undulating periosteal proliferation involving the distal tibia, fibula and metatarsals. Unlike thyroid acropachy, osteofluorosis[21] is symmetrical and involves all long bones as well as the pelvis and spine with lacy-appearing periosteal proliferation extending beyond the diaphysis. Typical X-ray findings in hyperostosis corticalis generalisata familialis include endosteal thickening of the cortices limited to the diaphysis of all long bones with similar changes in the skull resulting in narrowing of the medullary canal.[12, 22]

The symptoms of thyroid acropachy are variable. Most patients are either asymptomatic or have only mild arthralgias and stiffness of the hands and feet. Occasionally, however, some patients complain of severe joint pain and/or limitation of motion. Several forms of treatment have been used, with variable results. Topical steroids have generally been unsuccessful,[13, 16] as has local injection of hyaluronidase.[23] Subcutaneous injections of TSH and T_4 in one patient[4] resulted in resolution of skin changes over four years, but this was most likely coincidental since thyroid function is irrelevant to the course of thyroid acropachy. Skin grafting[17] had moderately successful results (but followup was only for three months). Amputation[3] was done in one case due to incapacitating pain. Normalization of thyroid status has had no effect.

The pathogenic basis for the development of thyroid acropachy is still unknown, although several hypotheses have been proposed. Thomas[1] first suggested that the acropachy may be secondary to the altered metabolic rate, but it is now known that patients may have increased, normal or decreased thyroid function at the time of presentation and the course of acropachy is not influenced by the thyroid status. Stimulation of periosteal proliferation by tissue hypoxia has been suggested as a mechanism. Finally,

Table 1

Summary of Case Reports

Authors	*No. of Patients*	*Exophthalmos*	*Presence of: Pretibial Myxedema*	*Clubbing*	*Thyroid State at onset of acropachy*	*Thyroid Treatment*	*Years after diagnosis of thyoid disease*	*Comments*
Thomas[1]	1M	1	1	1	euthyroid	thyroidectomy	2	first reported
Goette[2]	1M	—	1	1	1 euthyroid	1 ^{131}I	—	onset of acropachy years prior to onset of hyperthyroidism
Nixon Samols[3]	14M 10F	19	18	17	12 euthyroid 5 hypothyroid 17 hyperthyroid	15 received thyroidectomy ^{131}I, PTU, or combination	?	largest series with 1/3 patients without evidence of hyperthyroidism
Lynch et al[4]	1M 2F	2	3	3	3 hypothyroid	?	15	
Greene[5]	2M	2	1	2	2 euythroid		10	1 patient with euthyroid exophthalmos and acropachy
Peard[6]	1F	1	1	1	1 euthyroid	None	9	
Haydar[7]	1	1	1	1	1 hypothyroid	None		
McCarthy et al.[8]	2M	2	2	2	1 euthyroid 1 hypothyroid	1 thyroidectomy & ^{131} I 1 none	at presentation-5	
Gimlette[9]	1M 5F	6	6	5	2 euthyroid 3 hypothyroid 1 hyperthyroid	6 thyroidectomy 1 ^{131}I	2-13	
Engle[9]	1F	1	1	1	?	?	?	
Levitt[9]	1M	1	1	1	?	?	?	
Freeman[10]	2M	2	—	2	1 hypothyroid 1 hyperthyroid	thyroidectomy 1 none	3-28	
Moule et al[11]	2M 2F	4	4	4	1 euthyroid 1 hypothyroid 2 hypothyroid	1 thyroidectomy 2^{131}I 2 MTU and carbimazole	1-11	3 patients with LATS
Torres-Reyes & Staple[12]	1F	1	1	1	1 hypothyroid	thyroidectomy	weeks	
Parker et al	1M	1	1	1	1 euthyroid	^{131}I	2 3	improvement of skin with steroid cream positive bone scan
Seigel et al[14]	1F	1	1	1	?	^{131}I	1	positive bone scan
King et al[15]	1F	1	1	1	1 euthyroid	1 tapazol and ^{131}I	2	
Chremos[16]	1M	1	1	1	hypothyroid	PTU and I	7	no improvement with topical steroids
Bosadjeiva et al[17]	3	?	3	?	?	?	?	Autopsy of one patient revealed Hurthle cell carcinoma of thyroid; skin graft of peritibial myxedematous area successful but followup only for 3 months
Scanlon & Clement[23]	2F	2	2	2	1 euthyroid 1 hypothyroid	1 thyroidectomy 2^{131}I	3-4	

(Table continued on next page)

Table 1
(Continued)
Summary of Case Reports

Authors	No. of Patients	Exophthalmos	Presence of: Pretibial Myxedema	Clubbing	Thyroid State at onset of acropachy	Thyroid Treatment	Years after diagnosis of thyoid disease	Comments
Inch and Rolland[24]	1M 1F	2	2	2	1 euthyroid 1 hypothyroid		weeks 16	no improvement with topical steroids
Danforth & Humphrey[25]	1M	1	1	1	1 euthyroid	1^{131}I	40 months	
McAnulty[26]	1F	1	1	—	1 euthyroid	?	14	positive LATS x-ray changes improved spontaneously
Malkinson[27]	1F	1	1	1	?	1^{131}I & PTU		subcutaneous injection of T4 and TSH resulted in improvement of skin.
Kinsella & Back[28]	2F	2	1	1	2 euthyroid and MTU 1^{131}I and MTU	1 thyroidectomy 1-2		positive bone scan 1 patient's skin improved spontaneously but no change in x-ray findings
Elson[29]	1F	1	1	1	1 hypothyroid	^{131}I	2	
McGill[30]	1M	1	1	1	1 euthyroid		3	
Rynearson & Sacasa[31]	1M	1	1	1	1 hypothroid	?	6	
Verney[32]	1F	1	1	1	1 euthyroid	1 thyroidectomy & PTU	10	

an autoimmune basis has been proposed since most patients with thyroid acropachy who have been tested for LATS have had positive results.

Thyroid acropachy is a relatively unusual complication of a relatively common disorder, Graves' disease. Diagnosis is easily made by the typical soft tissue thickening of the hands and feet and the characteristic asymmetric, spiculated periosteal proliferation of the metacarpal and phalangeal bones in a patient with a history of Graves' disease. An extensive evaluation for another etiology of clubbing can be avoided. Most patients are asymptomatic and require no treatment. No therapy has been effective in reversing the changes of thyroid acropachy, but symptomatic treatment with anti-inflammatory agents may be of value in some patients. Thyroid status appears irrelevant to the development and course of thyroid acropachy.

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Intraluminal Duodenal Diverticulum Associated with Trisomy 21 in a Two-Year-Old

Akhtar Ashraf, M.D., Laurence Reitman, M.S., and Fong Y. Tsai, M.D.
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A case report of intraluminal duodenal diverticulum is presented, followed by a brief discussion of the origin and treatment of the congenital defect.

Intraluminal duodenal diverticulum is a rare developmental anomaly which presents as a mucosal pouch within the second portion of the duodenum and causes varying degrees of obstructive symptoms, usually in adults.

We present the case of a 2-year-old boy with trisomy 21, in which there is an increased incidence of intraluminal duodenal diverticulum,[1-2] who presented with intermittent obstructive symptoms.

Case Report

A 2-year-old white boy was admitted to Cedars-Sinai Medical Center, Los Angeles, with nausea and vomiting. On physical examination, epigastric and right upper quadrant tenderness, without rebound, were noted. There were no palpable masses. Hemoglobin, hematocrit, white cell count and electrolyte levels were all within normal limits.

An upper gastrointestinal examination with barium was performed. This revealed a barium-filled, pear-shaped, intraluminal duodenal diverticulum with a radiolucent outline. This characteristic image has been described as the "wind-sock" appearance (Fig. 1 arrow).

Discussion

The origin of an intraluminal duodenal diverticulum is not clear. The primitive foregut lumen of the 7-week human embryo is occluded by proliferative epithelial cells. Therefore, recanalization occurs due to the formation and coalescence of vacuoles.[3] Disruption of this process in the region of the duodenal anlage may result in various congenital abnormalities such as duodenal atresia, duodenal diaphragms, and intraluminal diverticula. An incomplete duodenal diaphragm will gradually transform into a pulsion-type

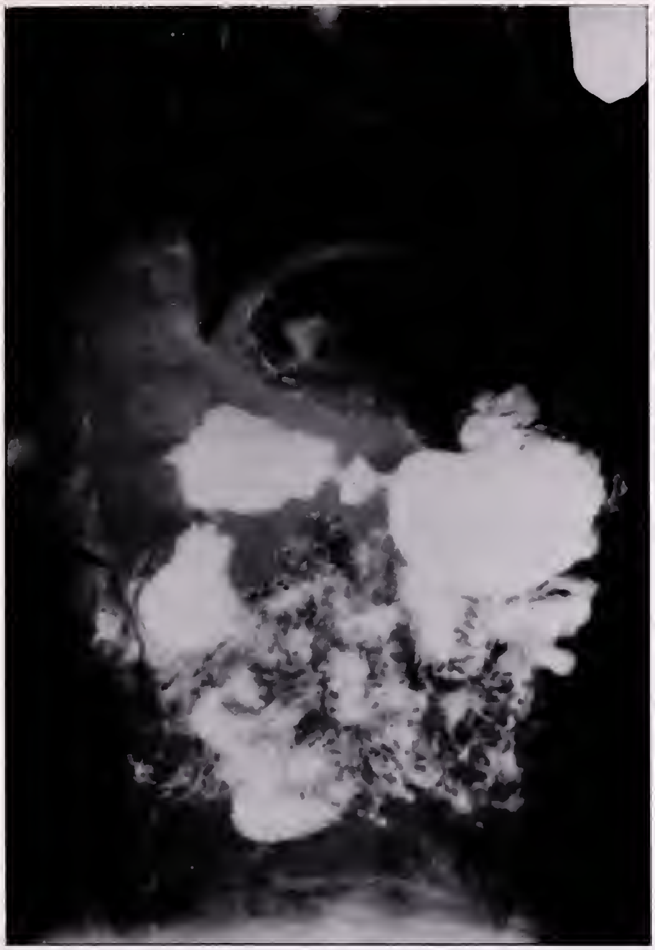

Figure 1. Pear-shaped, barium-filled intraluminal duodenal diverticulm, "wind-sock" appearance, in the second portion of the duodenum.

diverticulum secondary to the constant stretching by the forces of peristalsis and duodenal contents.

Intraluminal duodenal diverticulum frequently occurs in association with other anomalies such as annular pancreas, Down's syndrome, choledochocele, congenital heart disease, imperforate anus, Hirschsprung's disease, hypoplastic kidneys, and extrophy of the bladder.

Symptoms ususally do not develop until the third decade of life; 20% of the patients with the disease, however, have had symptoms since childhood. General symptoms are vague and include abdominal pain, epigastric fullness, and vomiting. Gastrointestinal bleeding may be the presenting feature.[4]

Pancreatitis may occur if the diverticulum obstructs the pancreatic duct orifice near its entry.[5]

Diagnosis is made by upper gastrointestinal and/or endoscopic examination.

Treatment

The procedure of choice is duodenotomy and excision of the diverticulum.[6-7]

Potential surgical complications include injury of the biliary tract or the papilla, stricture of the common duct, pancreatitis, fistula and abdominal abcess. The prognosis is excellent.

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9 Computed Tomography of the Adrenal Glands — City-Wide Radiology Conference. Location: Mallinckrodt Institute of Radiology. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 S. Kingshighway, St. Louis 63110. 314-362-7100.

13-14 Low Back and Sciatic Pain: Evaluation and Treatment — Location: Washington University School of Medicine. Contact: Loretta Giacoletto, CME Office, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis 63110. 314-362-6893.

19-20 Advanced Trauma Life Support Provider Course — Location: University of Kansas Medical Center. Contact: Mrs. Jody Scott, Dept. of Surgery, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913-588-6124.

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5-10 Practical Management of Patients with Infectious Disease: A Case-Oriented Approach — Location: Keystone, Colorado. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis 63110. 314-362-6893.

8-14 Obstetrics & Gynecology: Practical Aspects in Patient Care — Location: Maui, Hawaii. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis 63110. 314-362-6893.

10-12 Pan American North American Course — Location: Key Biscayne, Florida. Contact: Felix N. Sabates, M.D., Truman Medical Center, 2301 Holmes St., Kansas City 64108. 816-556-3501.

13 City-Wide Radiology Conference — Location: St. Louis University. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway, St. Louis 63110. 314-362-7100.

13-15 Consensus Development Conference on the Health Implications of Smokeless Tobacco Use — Location: National Institutes of Health, Bethesda, Maryland. Contact: Barbara McChesney, Prospect Associates, Suite 401, 2115 East Jefferson St., Rockville, MD 20852. 301-468-6555.

29-30 Advanced Cardiac Life Support Provider Course — Location: University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

30-31 Special Workshop on the Use of the CO_2 Laser in ENT Surgery — Location: University of Kansas Medical Center. Contact: Carole Rosen, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

February

5 Thermal Illnesses and Acclimatization — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

5-7 Sixth National Conference on CAPD — Location: Kansas City Westin Crown Center. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

7-8 Midwinter Laser Workshop: Lasers for the Posterior Segment — Location: St. Louis. Contact: Jeanne B. Toma, Retina Research & Development Foundation, 4949 Barnes Hospital Plaza, East Pavilion, Suite 17413, St. Louis 63310. 314-367-1181.

10 City-Wide Radiology Conference on "Update on the Treatment of Symptomatic Urolithiasis" — Location: Mallinckrodt Institute of Radiology, St. Louis. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway, St. Louis 63110. 314-362-7100.

11-12 Critical Care Symposium — Location: Columbia, Missouri. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

23-Mar. 1 Cardiology Symposium — Location: Steamboat Springs, Colorado. Contact: Anita Herbst, CME Coordinator, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis 63104. 314/664-9800.

March

7 Medical Ethics — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

7-8 **Family Practice Update** — Location: UMC Alumni Center. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

7-9 **Organizational Systems** — Location: UMC Memorial Union. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

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10-11 **32nd Annual Urology Seminar** — Location: Kansas City Westin Crown Center. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

12-13 **Annual Postgraduate Pediatrics Symposium** — Location: Battenfeld Auditorium, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

19-20 **Advanced Cardiac Life Support Provider Course** — Location: Francisco Lounge, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

25 **Sam E. Roberts Nutrition Symposium** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

28 **AIDS: Are You at Risk?** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

April

1 **Common Gastroenterology Problems** — Location: Alameda Plaza Hotel, Kansas City. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

4 **Cardiology** — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

4-6 **Diabetes Mellitus** — Location: Tan-Tar-A, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

10-11 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: Sudler Hall, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

10-12 **Pediatric Ophthalmology and Strabismus — 1986 International Symposium** — Location: Kansas City. Contact: David Braverman, M.D., Truman Medical Center, 2301 Holmes St., Kansas City 64108. 816-556-3501.

14 **Leroy Sante Lecture** — Location: St. Louis University. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway Blvd., St. Louis 63110. 314-362-7100.

25 **Pediatric Conference** — Location: Columbia, Missouri. Contact: Weldon D. Webb, CME Office, University of Missouri-Columbia School of Medicine, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

25-26 **Primary Pediatrics Conference** — Location: Columbia, Missouri. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

May

9 **Stroke** — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

9-11 **Ninth Annual Missouri Cardiovascular Conference** — Location: Tan-Tar-A, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

12 **City-Wide Radiology Conference on "Managing a Radiology Department"** — Location: Mallinckrodt Institute of Radiology, St. Louis. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway Blvd., St. Louis 63110. 314-362-7100.

June

4 **Pulmonary Disease** — Location: The Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

August

1 **Human Sexuality** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute for Postgraduate Medical Education, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

September

25-26 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery — Location:** Sudler Hall, University of Kansas City Medical Center. Contact: Carole Rosen, Promotions Coordinator, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103 913/588-4480.

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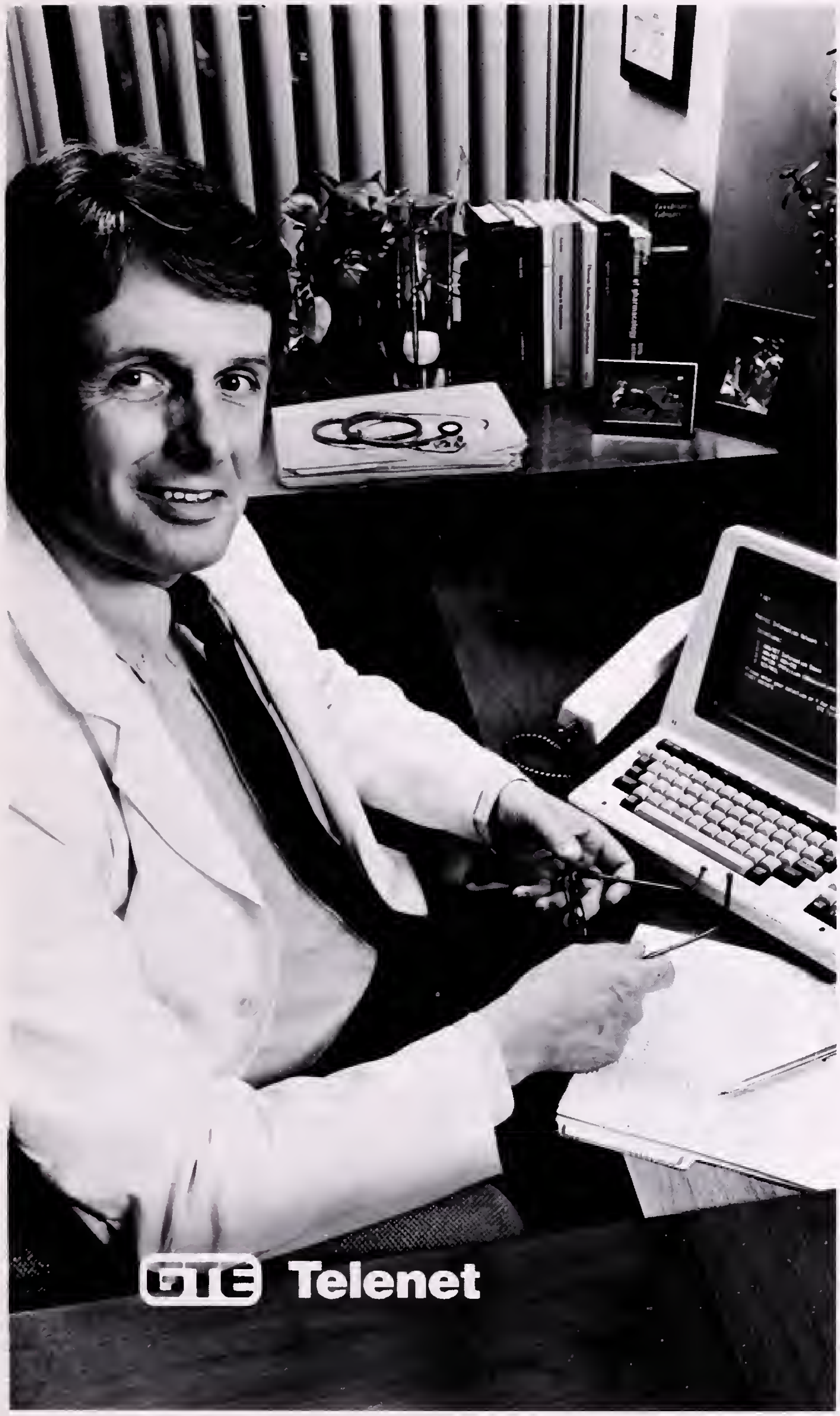

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The Sad, Somber Song of the Hospital Administrator

(To be sung as a dirge, with muffled drums)

Said the DRG's creator
To the chief administrator:
"You'd better use some prestidigitation . . .
"You'd better use your clout
And get those patients out
Or you'll be on a permanent vacation."

Said the hospital's lay board:
"Of course, those rules can't be ignored.
You've got to get the patients up and going.
Things will, we're sure, be fine
But your job is on the line
'Cause there'd better not be any red ink showing."

Now, Medicare has said:
"You gotta empty out each bed."
Somehow, you'd better meet with their approval,
But the Board, you see, has willed:
"You'd better keep all those beds filled,
Or we will see to your abrupt removal."

They say: "You'd best be deft
'Cause you've just a few years left
And we understand your fear and apprehension
Because we'll look at each admission
And a man in your position
Might never get his hands upon his pension."

However, don't turn on the gas
Or slash your wrists . . . 'cause this shall pass
And, if not, there may be gold in what you've fought for,
'Cause you'll have earned a reputation
In the art of obfuscation
And, in Washington, such skills are highly sought for.

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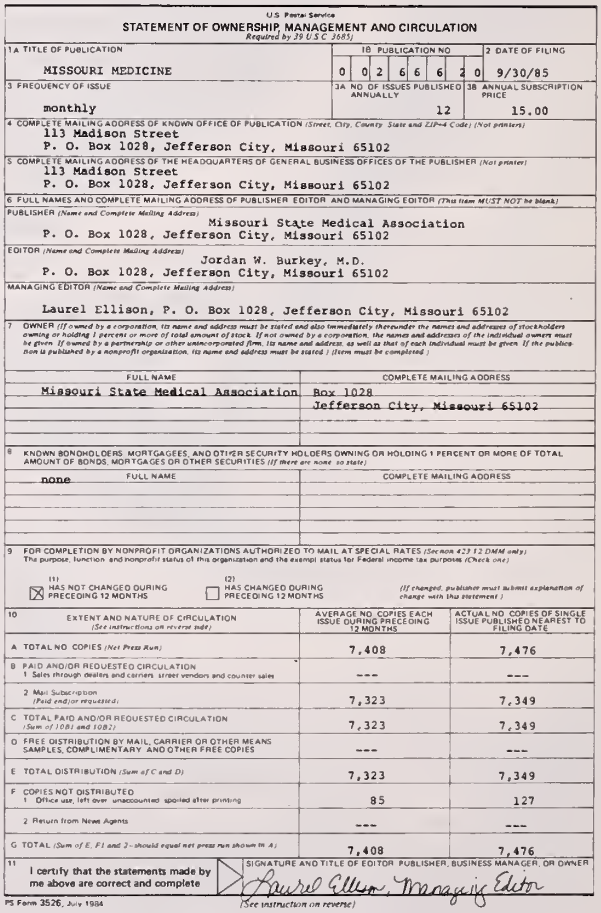

U.S. Postal Service
STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION
Required by 39 U.S.C. 3685)

1A TITLE OF PUBLICATION MISSOURI MEDICINE	1B PUBLICATION NO 0 0 2 6 6 6 2 0	2 DATE OF FILING 9/30/85
3 FREQUENCY OF ISSUE monthly	3A NO. OF ISSUES PUBLISHED ANNUALLY 12	3B ANNUAL SUBSCRIPTION PRICE 15.00

4 COMPLETE MAILING ADDRESS OF KNOWN OFFICE OF PUBLICATION *(Street, City, County, State and ZIP+4 Code) (Not printers)*
113 Madison Street
P. O. Box 1028, Jefferson City, Missouri 65102

5 COMPLETE MAILING ADDRESS OF THE HEADQUARTERS OF GENERAL BUSINESS OFFICES OF THE PUBLISHER *(Not printer)*
113 Madison Street
P. O. Box 1028, Jefferson City, Missouri 65102

6 FULL NAMES AND COMPLETE MAILING ADDRESS OF PUBLISHER, EDITOR, AND MANAGING EDITOR *(This item MUST NOT be blank)*

PUBLISHER *(Name and Complete Mailing Address)*
Missouri State Medical Association
P. O. Box 1028, Jefferson City, Missouri 65102

EDITOR *(Name and Complete Mailing Address)*
Jordan W. Burkey, M.D.
P. O. Box 1028, Jefferson City, Missouri 65102

MANAGING EDITOR *(Name and Complete Mailing Address)*
Laurel Ellison, P. O. Box 1028, Jefferson City, Missouri 65102

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Medical School News

University of Missouri-Kansas City

- **Felix Sabates, M.D.,** chairman of the department of ophthalmology at Truman Medical Center-West and professor at the School of Medicine, recently unveiled a model of the new Eye Foundation Institute. The institute, a non-profit corporation, was established by 18 area ophthalmologists of the School of Medicine's teaching staff. The first floor of the 20,000-square-foot building will house outpatient cataract surgical facilities and the laser clinic; the second floor is intended for research.

- McGraw-Hill Book Co. recently awarded two fourth-year medical students, **Mark Griffin** and **Chip Zachary** with selected medical books. The prizes were made as part of a new McGraw-Hill program that recognizes academic achievement.

- The American College of Surgeons recently conferred three-year approval to Truman Medical Center-West for its Teaching Hospital Cancer Program. The conferring group commended in particular TMC's cancer conference activities and patient-care evaluation.

- **Karen Baucom, M.D.,** a graduate of the UMKC School of Medicine, recently accepted a position at both Truman Medical Center-West and Truman Medical Center-East in the departments of Obstetrics/Gynecology. Dr. Baucom's duties include training residents. After graduating from UMKC in 1975, Dr. Baucom did her residency at Kansas University Medical Center.

- The second group of senior students from the UMKC School of Medicine to be named Alpha Omega Alpha honor society members were announced recently and officers were elected. Criteria for selection includes scholastic excellence, integrity, capacity for leadership, compassion, and fairness in dealing with one's colleagues. UMKC student officers for 1985-86 are **Doug Aach,** president, and **Kathy Perryman** and **Ken Fine,** vice presidents. In addition to the student officers, this year's members are: **Walt Bernard, Cindy Chang, Quintin Cokingtin, Leo Contois, Stu Ehrett, Mike Krahn, Steve Leitch, Ellen Luebbers, Pat O'Toole, Holly Thacker, Tom Toth, and Mark Yap.**

- Two individuals with ties to the School of Medicine, **Eva Frazer, M.D.,** and **Turner L. Minnigerode, M.D.,** were honored recently at UMKC's Alumni Awards Dinner. Dr. Frazer, a 1981 graduate of the School of Medicine, received the Alumni Association's Alumni Achievement Award, and Dr. Minnigerode, a Year-1 docent, received the Pierson Award for outstanding teaching.

The Alumni Achievement Award recognizes alumni who have made exceptional achievements in life work, have given outstanding service to the community, and have earned a local or regional reputation within their field. Among Dr. Frazer's accomplishments is her appointment by **Gov. John Ashcroft** last spring as a member of the University of Missouri Board of Curators. The Pierson Award, which went to Dr. Minnigerode, recognizes professors or instructors who have rendered outstanding instructional service.

Washington University

- **Virginia V. Weldon, M.D.,** deputy vice chancellor for medical affairs at Washington University School of Medicine was installed recently as chairman of the Association of American Medical Colleges (AAMC) at the organization's annual meeting in Washington, D.C.

This marks the first time in the AAMC's 109-year history that a woman has been chosen to lead the Washington, D.C.-based association. With a membership or more than 100,000, the AAMC represents the entire community of academic medicine, including 127 medical schools, 430 teaching hospitals and more than 70 biomedical societies. AAMC is a leader in developing programs to advance medical education, biomedical research and health services in the United States.

- Sweeping transformations in the training of American doctors are chronicled in a new book by **Kenneth M. Ludmerer, M.D.,** a physician/historian at Washington University School of Medicine.

"Learning to Heal: The Development of American Medical Education" was published in November by Basic Books, Inc., a division of Harper & Row. It is Dr. Ludmerer's second book; the first, "Genetics and American Society," was published in 1972 and was selected in 1973 by the *Saturday Review* as one of the year's ten outstanding books on scientific subjects.

"Learning to Heal," already reviewed by one critic as a "stunning achievement," examines the progression of medical education in the United States.

A century ago, says Dr. Ludmerer, entrance requirements to medical school were less stringent than they were to a good high school. "Instruction was superficial and brief," he says. "The terms lasted only 16 weeks, and after the second term, the medical degree was automatically given, regardless of a student's academic performance." Instructors were private practitioners who taught during their spare time.

- **Nicholas T. Kouchoukos, M.D.,** has been named president of the Washington University Medical Center Alumni Association. Dr. Kouchoukos, a nationally recognized cardiovascular surgeon, is the John M. Shoenberg Professor of Cardiovascular Surgery at Washington University School of Medicine, and chief of the division of cardiovascular and thoracic surgery at

Jewish Hospital, a sponsoring institution of the Washington University Medical Center. He graduated cum laude from Washington University School of Medicine in 1961.

■ **Kellie Burke Semler** has been named director of medical alumni programs at Washington University School of Medicine. Ms. Semler is the former director of development at Maryville College. She replaces **Christine Owens,** who moved to Washington, D.C., after four years as director of the medical alumni office.

■ Two faculty members at Washington University School of Medicine will conduct research for the next seven years with almost $1.5 million in funding from Javits Neuroscience Investigator Awards.

Recipients of the most recent Javits Awards include **Harold Burton, Ph.D.,** professor of neurobiology and associate professor of physiology and biophysics; and **David I. Gottlieb, Ph.D.,** associate professor of neurobiology and biochemistry.

Washington University faculty members have received eight of the 125 Javits Neuroscience Investigator Awards presented since October 1983, when the highly competitive awards program began. Award recipients are selected three times a year.

The U.S. Congress gives the awards in honor of Sen. Jacob K. Javits of New York, on recommendation of the National Advisory Neurological and Communicative Disorders and Stroke Council of the National Institutes of Health. Sen. Javits suffers from amyotrophic lateral sclerosis (ALS), more commonly known as Lou Gehrig's disease.

■ Washington University School of Medicine has been awarded $3.4 million as one of four institutions in the country to be designated a Sen. Jacob Javits Center of excellence in Neuroscience.

The program, sponsored by the National Institutes of Neurological Diseases and Stroke, stipulates that "the centers should be dedicated to finding the cause, prevention and cure for neurological diseases, and shall be designed so that multidisciplinary teams of the most capable scientists address fundamental issues of nervous system structure and function."

Gerald D. Fischbach M.D., Edison professor and head of anatomy and neurobiology, and **Dale Purves, M.D.,** professor of physiology and biophysics, will direct the Center at the School of Medicine which includes **Jonathan Cohen, Ph.D.,** professor of anatomy and neurobiology and biological chemistry; **Jeffrey Lichtman, Ph.D.,** assistant professor of anatomy and neurobiology; **John Merlie, Ph.D,** associate professor of pharmacology; **Joshua Sanes, Ph.D.,** assistant professor of anatomy and neurobiology; and **Mark Willard, Ph.D.,** professor of anatomy and neurobiology, and associate professor of biological chemistry.

■ The Normal J. Stupp Foundation has created a special fund to support work in geriatric neurology at Washington University School of Medicine. Through annual contributions, the Stupp Foundation Fund for Research and Education in Geriatric Neurology will support scientists and educators who specialize in impairments that are the result of multiple strokes and other dementias. Those impairments include deterioration in mental function, mood and behavior. The geriatric neurology team will devote special attention to problems of patients, their families, and the staff at Bethesda-Dilworth Memorial Home in St. Louis.

The Stupp Fund is established through the department of neurology and neurological surgery at the School of Medicine. **William M. Landau, M.D.,** professor and head of the department of neurology, will administer the fund with advice from members of the university's Memory and Aging Project, directed by **Leonard Berg, M.D.** Drs. Landau and Berg are both on staff at Barnes, Children's and Jewish hospitals.

■ The C. V. Mosby Company and the Times Mirror Foundation have announced a $100,000 gift to endow a pathology laboratory at Washington University School of Medicine.

The gift is presented as part of the Alliance for Washington University, a $300 million program to provide support for the institution.

The funding will endow a pathology laboratory in the Clinical Sciences Research Building, and will support the research of department head **Emil R. Unanue, M.D.** Dr. Unanue is Edward Mallinckrodt Professor of Pathology at the School of Medicine, and pathologist-in-chief at Barnes, Children's and Jewish hospitals, sponsoring institutions of the Washington University Medical Center.

St. Louis University

■ **Richard L. Stensrud,** associate vice president, St. Louis University Medical Center, has announced that the name of the Hospitals has been changed to The University Hospital.

"The name change is concurrent with the approval from the board of trustees to construct a $56 million replacement project this fall," said Mr. Stensrud. "The change allows for ease of identity for our patients and physicians, and, just as important, reflects our role as a teaching facility."

The University Hospital began in 1930 with a bequest from the Joseph Desloge family and was called Firmin Desloge Hospital. In the 70s the name was changed to St. Louis University Hospitals to coincide with the name of the University.

■ **William P. Cooney, M.D.,** associate professor of orthopedic surgery at the Mayo Clinic, Rochester, Minn., was the first guest lecturer to participate in the I.C. Middleman Memorial Lecture at St. Louis University Medical Center.

The lecture, hosted by the department of orthopedic surgery, St. Louis University School of Medicine, honored the late **I. C. Middleman, M.D.** Dr. Middleman was a graduate of the University's School of Medicine who specialized in the treatment of athletic injuries for the St. Louis baseball Cardinals and the St. Louis soccer Stars.

Dr. Cooney presented an overview on baseball injuries including hand and wrist fractures, elbow injuries and throwing injuries. He is a 1969 graduate of the School of Medicine.

■ **William S. M. Wold, Ph.D.,** associate professor of molecular virology, received a five-year, $470,638 grant from the National Cancer Institute to study how cellular proteins are made and assembled into the cell membranes.

Dr. Wold came to St. Louis University Medical Center's Institute of Molecular Virology in 1974 and has since conducted research on the molecular basis of human cancer and the role of common human viruses in cancer.

■ **George E. Thoma, M.D.,** vice president for St. Louis University Medical Center, will retire from that position next summer.

Dr. Thoma, 63, has served as the medical center's top administrator for the past 14 years and was assistant vice president for 11 years prior to that. He will begin a one-year sabbatical in March 1986, during which time he will work with the World Health Organization in Geneva, Switzerland. When he comes back to St. Louis in 1987, Dr. Thoma will return to teaching and research in the departments of internal medicine and hospital and health care administration where he holds full professorships.

He received his medical degree from St. Louis University in 1947. As a pioneer in the field of nuclear medicine, he organized the radioisotope laboratory at the medical center in 1949. That laboratory became known as the most completely equipped clinical radioisotope laboratory in the Midwest.

Dr. Thoma cited the recent approval of the $56 million University Hospital replacement project and his upcoming 65th birthday as reasons for his retirement.

"A new university hospital was part of a plan developed almost 25 years ago by **Father Ed Drummond** and myself. I feel I've seen the medical center long-range plan come to fruition," he said. (The Rev. Edward J. Drummond, S.J., was formerly vice president for the medical center and later university president.)

■ President **Thomas R. Fitzgerald, S.J.,** recently announced that the University Hospital at St. Louis University Medical Center received approval from the school's Board of Trustees to begin construction of a $56 million replacement project.

Designed by Hellmuth, Obata and Kassabaum, Inc., the project allows for renovation of portions of the Firmin Desloge building and new construction atop and renovation of the adjacent Bordley Memorial Pavilion. Currently, the University Hospital is licensed for 362 beds. The renovation and expansion will not increase the number of patient beds, rather it will replace patient rooms presently located in the Firmin Desloge building. That area will then be converted to laboratory facilities, pharmacy, neuroscience areas, physician offices and support services.

The addition to the existing Bordley Memorial Pavilion will include six new floors, four of which will be patient floors. Other features include specialized operating suites, an expanded outpatient surgery area, an enlarged emergency room for trauma services and two floors of clinical research. Construction of a new five-story parking structure and placement of external signage for control and routing of pedestrian and automobile traffic is also included in the project.

The University Hospital has identified five centers of emphasis around which these floors are designed: cardiovascular disease, cancer, neurosciences, musculoskeletal diseases and organ transplantation. These encompass both the three most common causes of death in the United States: heart disease, cancer and stroke; and the major causes of disability: musculoskeletal and neurological disease.

Upon completion, each of the additional new patient care floors will feature a critical care/intensive care unit with intermediate care and regular patient beds. Each floor is designed for a mix of related medical and surgical specialties, with treatment rooms and facilities designed specifically to accommodate the unique needs of patients within the areas of emphasis. The top two floors will be devoted to fundamental research in the scientific and clinical fields which relate to the centers of emphasis.

■ St. Louis University School of Medicine microbiology professor **Arnold Kaplan, Ph.D.,** has been appointed director of the $11 million cell biology program for the National Science Foundation in Washington, D.C.

Dr. Kaplan will serve as director for a period of one year. While his primary responsibility is to determine which grant applications submitted nationwide deserve National Science Foundation funding, he also has the opportunity to experience how congressional committees interact with and interpret the Foundation's research.

■ **Richard I. Blum, M.D.,** assistant professor of internal medicine, has been elected to Fellowship in the American College of Cardiology (ACC).

Prior to coming to The University Hospital's division of cardiology in 1984, he completed fellowships in cardiology at Boston University, the Brigham and Women's Hospital, and the Harvard School of Public Health.

Dr. Blum is associate director of the Hospital's cardiac arrhythmia study unit and associate director of the Hospital's medical coronary intensive care unit.

■ **William J. Longmore, Ph.D.,** professor of biochemistry, will serve as principal investigator of a five-year $1,713,699 training grant from the National Heart, Lung, and Blood Institute. The grant was awarded to support multidisciplinary research training in lung diseases.

"We have deliberately included trainers with research activities which directly relate to and complement research in pulmonary function and structure, lung disease and pulmonary vascular diseases. It is our contention that such a faculty working closely together provides a broad spectrum of research training which may be applied at the frontiers of lung disease prevention and treatment," said Dr. Longmore.

The University of Missouri-Columbia

■ **Michael Perry, M.D.,** associate professor of hematology and medical oncology and chairman of the department of medicine, has received a three-year grant of $255,848 from the Department of Health and Human Services for the study of "Cancer and Leukemia Group B." The grant will continue the various studies of patients with malignant diseases using the protocols of Cancer and Leukemia Group B. UMC has been a member of this cooperative group for the past 14 years.

■ **Helen Mullen, Ph.D.,** associate professor of immunology and rheumatology in the department of medicine, has received a three-year grant of $221,757 from the Department of Health and Human Services for "Suppressor T Cell Regulation of Autoimmune Thyroiditis."

Dr. Mullen's goal is to develop a model system in which suppressor T cells specific for an autoantigen, mouse thyroglobulin can be induced and assayed for their ability to suppress experimental autoimmune thyroiditis in CBA mice. The long-term goal is to obtain information that will increase understanding of the regulatory mechanisms involved in autoimmune endocrine diseases as well as other autoimmune diseases.

■ **Frank B. Engley, Jr., Ph.D.,** professor of microbiology, recently completed an appointment as member of the Council on Allergy and Infectious Disease of the National Institutes of Health. Currently, he is on the sterilization committee of the Association for the Advancement of Medical Instrumentation and serves as a consultant to the Armed Forces Epidemiological Board. During the past year, Dr. Engley has traveled extensively to international countries making presentations on antisepsis, disinfection, sterilization and hospital infection control.

■ **Graig Eldred, Ph.D.,** research assistant professor of ophthalmology, has received a one-year grant of $9,000 from the Children's Brain Disease Foundation for a study of "Analysis of Lipofuscin Fluorescence."

■ **Friedhelm Schroeder, Ph.D.,** associate professor of pharmacology, presented a paper on "Age Induced Changes in Cell Membranes" at the meeting of "Experimental Basis for a New Pharmacological Approach to Alterations Associated with the Process of Aging in the Brain." Dr. Schroeder also attended the Gordon Conference on Lipid Metabolism at Meriden, NH.

■ **James M. A. Weiss, M.D.,** professor and chairman of the department of psychiatry and professor of community medicine, has been elected to fellowship in the American College of Preventive Medicine, based on demonstration of significant contributions in the field. Dr. Weiss is the author of two books and more than 150 scientific articles and essays, many of which use preventive medicine principles and techniques in studies of psychiatric disorders.

■ **Arthur J. Robins, Ph.D.,** professor and chief of mental health sciences in the department of psychiatry, has been appointed editorial referee for *Hospital and Community Psychiatry,* and was reappointed as a referee for the *Community Mental Health Journal.* Dr. Robins and **A. E. Daniel, M.D.,** associate professor of child psychiatry, were named consultants to the National Academy of Corrections in Boulder, Colo.

■ **Bruce E. Harry, M.D.,** assistant professor of psychiatry and adjunct assistant professor of law, presented two papers at the American Academy of Forensic Sciences in Las Vegas. The topics were "Occurrence of Post-Traumatic Stress Syndrome Among Murderers" and "Technical and Legal Aspects of Forensic Evaluations of Deaf Offenders."

■ **Marion C. Harper, M.D.,** associate professor of orthopedic surgery, had an article, "Fractures of the Femur Treated by Open and Closed Intramedullary Nailing Using the Fluted Rod," published in the *Journal of Bone and Joint Surgery.*

■ **Larry Petterborg, Ph.D.,** assistant professor of anatomy at the University of Missouri-Columbia (UMC) School of Medicine, has been awarded a continuation grant of $141,724 from the National Institutes of Health for the second year of a study of "Fertility Regulatory Action of Melatonin."

■ **Albert Sun, Ph.D.,** professor of biochemistry, has received a three-year grant of $346,963 from the National Institute of Alcohol Abuse and Alcoholism for the study of "Alcohol-Membrane Interaction in the Brain: Aging Effects." The main objective of this study is to test the hypothesis that both alcohol and aging can cause detorioration of brain membranes and that ethanol accelerates the brain aging process and alters neural membrane integrity, as evident from changes in membrane physical properties, lipid composition, transport enzymes and neurotransmitter uptake and release systems.

■ **J. Ricardo Martinez, M.D.,** professor of child health, has received a three-year grant of $186,529 from the Department of Health and Human Services for the study of "Secretory Mechanisms in the Salivary Glands." Dispersed acini isolated from the rat submandibular gland will be used to investigate the presence and activation of transport systems. Results of these studies should provide more direct evidence for the presence and activation of two ion transport systems involved in the secretion of fluid and electrolytes by salivary acinar cells and contribute to the understanding of the mechanisms of saliva formation.

■ **Brent Parker, M.D.,** professor of cardiology in the department of medicine, has received a two-year grant of $145,044 from the Department of Health and Human Services for "Preventive Cardiology Academic Award."

The grant will provide the opportunity in teaching medical students to emphasize the importance of prevention of cardiovascular disease rather than the palliative and expensive care of advanced disease. Freshmen medical students will receive a risk factor screening for cardiovascular disease during their orientation and recommendations for modification; sophomore medical students will receive lectures on preventive cardiology. Case students will be presented to juniors, and lectures, informal discussions and case studies given to senior medical students. The Apple IIE computer program will be expanded, and an elective program for juniors and seniors that involves literature searches, work on the computer program and in the preventive cardiology clinic will be continued.

■ **E. Lee Forker, M.D.,** professor of gastroenterology and liver disease in the department of medicine and associate dean for research of the School of Medicine, has received a one-year grant of $7,500 from the American Gastroenterological Association for the study of "Mechanisms of Bile Formation/Postdoctoral Fellowship — B.A. Luxon." The project's objectives are to measure the hepatic rate constants for uptake, efflux and excretion (or metabolism) of organic solutes by analyzing the disappearance of labeled species from the stirred reservoir of a perfused liver preparation, and to elucidate the mechanism of cell surface mediated dissociation of protein bound solutes using both perfused livers and isolated cells in monolayer culture.

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Physician's Recognition Awards

Thirty-five MSMA members qualified for the MSMA-AMA Physician's Recognition Award during September 1985.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

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Rogelio L. Bautista, *Moberly*

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A Dozen Errors to Avoid

Listed below are the twelve most common errors in manuscripts which are submitted for possible publication in this Journal. Please be sure to check for these mistakes before submitting your papers. Thank you in advance for your consideration.

1. Failure to send the original typed manuscripts and one copy.
2. Failure to double-space entire manuscript (abstract, references, legends, and tables).
3. References not in proper format, not in numerical order, or not cited in text.
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5. Failure to send two sets of illustrations and/or photographs.
6. Title or abstract too long.
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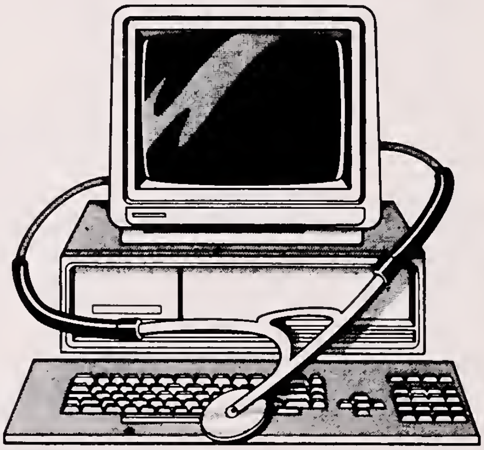

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New Members

■ **Arthur E. Baue, M.D.,** 6420 Clayton Rd., St. Louis 63117, has become a member of the St. Louis Metropolitan Medical Society. Dr. Baue received his preliminary education at Westminister College and his medical degree at Harvard in 1954. He completed his residency training at Massachusetts General Hospital, Boston, Mass. He specializes in general surgery and thoracic surgery.

■ **Jose A. Benitez, M.D.,** 24 S. Hospital Dr., Fulton 65251, has become a member of the Callaway County Medical Society. Dr. Benitez received his preliminary education at Richmond College and his medical degree at Universidad Autonoma de Guadalajara Mexico in 1973. He completed his residency training at Regional Hospital of Caguas, Mexico. He specializes in obstetrics and gynecology.

■ **Frank W. Braxton, M.D.,** 14 Doctor's Park, Cape Girardeau 63701, has become a member of the Cape Girardeau County Area Medical Society. Dr. Braxton received his preliminary education at Temple University and his medical degree at Temple University in 1975. He completed his residency training at Sinai Hospital, Baltimore, Md. He specializes in nephrology.

■ **Augusto F. Climaco, M.D.,** 66 Doctor's Park, Cape Girardeau 63701, has become a member of the Cape Girardeau County Area Medical Society. Dr. Climaco received his preliminary education at Atened De Zanboanea and his medical degree at the University of the East in 1965. He completed his residency training at Mercy Hospital, Chicago, Ill. He specializes in neurosurgery.

■ **Raymond F. Cohen, D.O.,** 12255 DePaul Dr., Bridgeton 63044, has become a member of the St. Louis Metropolitan Medical Society. Dr. Cohen received his preliminary education at Northeast Missouri State University and his osteopathic degree at Kirksville College of Osteopathic Medicine in 1980. He completed his residency training at the University of Kansas, Kansas City. He specializes in neurology.

■ **Jane L. Dawson, M.D.** 1810 S. Main, Maryville 64468, has become a member of the Northwest Missouri Medical Society. Dr. Dawson received her preliminary education at the University of Nebraska and her medical degree at the University of Nebraska in 1980. She completed her residency training at the University of Nebraska Medical Center, Omaha. She specializes in obstetrics and gynecology.

■ **Patrick S. Dawson, M.D.,** South Highway 71, Maryville 64468, has become a member of the Northwest Missouri Medical Society. Dr. Dawson received his preliminary education at the University of Nebraska and his medical degree at the University of Nebraska in 1982. He completed his residency training at the University of Nebraska Medical Center, Omaha. He specializes in family practice.

■ **Lyndon W. Gamelson, M.D.,** 1235 E. Cherokee, Springfield 65802, has become a member of the Greene County Medical Society. Dr. Gamelson received his preliminary education at the University of Southern California and his medical degree at the University of Kansas in 1980. He completed his residency at the University of Oklahoma, Health Sciences Center, Oklahoma City. He specializes in emergency medicine.

■ **Kathleen L. Graves, M.D.,** 1965 S. Fremont, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Graves received her preliminary education at Centre College, Kentucky and her medical degree at the University of Kentucky in 1977. She completed her residency training at the University of Kentucky, Louisville. She specializes in obstetrics and gynecology.

■ **Kathy J. Lentz, M.D.,** 800 E. 5th St., Suite 115, Washington 63090, has become a member of the Franklin-Gasconade-Warren County Medical Society. Dr. Lentz received her baccalaureate and medical degree at the University of Missouri-Kansas City in 1980. She completed her residency training at the University of Missouri-Columbia. She specializes in ophthalmology.

■ **Kenneth R. Mann, M.D.,** Suite 530, Professional Building North, 2700 Hospital Dr., North Kansas City 64116, has become a member of the Clay-Platte County Medical Society. Dr. Mann received his preliminary education at the University of Kansas and his medical degree at the University of Kansas in 1979. He completed his residency training at St. Lukes Hospital, Kansas City. He specializes in internal medicine.

■ **Norman J. Mechlin, M.D.,** 609 Cherry, Suite 419, Springfield 65806, has become a member of the Greene County Medical Society. Dr. Mechlin received his preliminary education at Westminster College and his medical degree at the University of Missouri-Columbia in 1981. He completed his residency training at the University of Missouri-Columbia. He specializes in internal medicine.

■ **Dix R. Morgan, M.D.,** 1701 Lacey, Cape Girardeau 63701, has become a member of the Cape Girardeau County Area Medical Society. Dr. Morgan received his preliminary education at Brigham Young University and his medical degree at the University of Cincinnati in 1960. He completed his residency training at the University of Kentucky, Lexington. He specializes in therapeutic radiology.

■ **Nathaniel G. Murphey, M.D.,** 820 Jefferson, Fulton 65251, has become a member of the Callaway County Medical Society. Dr. Murphey received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1982. He completed his residency training at the University of Missouri-Columbia. He specializes in family practice.

■ **David A. Nichols, M.D.,** Ten South Hospital Drive, Fulton 65251, has become a member of the Callaway County Medical Society. Dr. Nichols received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1982. He completed his residency training at Duke University, Durham, N.C. He specializes in internal medicine.

■ **Abdul Qadir, M.D.,** 1026 Main St., Lexington 64067, has become a member of the Lafayette-Ray County Medical Society. Dr. Qadir received his preliminary education at D. J. Government Science College and his medical degree at Dow Medical College in 1975. He completed his residency training at

North Shore University Hospital, Manhasset, N.Y. He specializes in pediatrics.

■ **R. Ramachandra Reddy, M.D.**. 215 W. Main, Jackson 63755, has become a member of the Cape Girardeau County Area Medical Society. Dr. Reddy received his preliminary education at Madras University and his medical degree at Guntur Medical College in 1960. He completed his residency training at the University of Missouri-Columbia. He specializes in plastic surgery.

■ **James D. Rogers, M.D.**, 1900 S. National, Suite 2600, has become a member of the Greene County Medical Society. Dr. Rogers received his preliminary education at Albion College and his medical degree at Bowman Gray School of Medicine in 1974. He completed his residency training at Yale University, New Haven Hospital, New Haven, Conn. He specializes in cardiovascular surgery.

■ **John B. Selhorst, M.D.**, 3660 Vista, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Selhorst received his preliminary education at Spring Hill College and his medical degree at St. Louis University in 1967. He completed his residency training at University Hospitals, Cleveland, Ohio. He specializes in psychiatry and neurology.

■ **Sameer I. Shehadi, M.D.**, 1325 S. Grand Blvd., St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. Dr. Shehadi received his preliminary education at the American University of Beirut and his medical degree at the American University of Beirut in 1956. He completed his residency training at Pittsburg University Hospitals, Pa. He specializes in surgery and plastic surgery.

■ **Sharon A. Smaga, M.D.**, 63 Doctor's Park, Cape Girardeau 63701, has become a member of the Cape Girardeau County Area Medical Society. Dr. Smaga received her preliminary education at Loyola University and her medical degree at the University of Chicago in 1982. She completed her residency training at Memorial Hospital, Carbondale, Ill. She specializes in family practice.

■ **William F. Snidle, M.D.**, 800 E. 5th St., Washington 63090, has become a member of the Franklin-Gasconade-Warren County Medical Society. Dr. Snidle received his preliminary education at Southern Illinois University and medical degree at the University of Illinois in 1981. He completed his residency training at St. John's Mercy Medical Center, Creve Coeur. He specializes in obstetrics and gynecology.

■ **Jon F. Snow, M.D.**, 1000 E. Primrose, Suite 360, Springfield 65807, has become a member of the Greene County Medical Society. Dr. Snow received his preliminary education at Augsburg College and his medical degree at Universidad Autonoma de Guadalajara, Mexico in 1979. He completed his residency training at the University of Maryland Hospital, Baltimore, Md. He specializes in otolaryngology, head and neck surgery.

■ **Karl W. Waterson, M.D.**, 1434 West 8th St., West Plains 65775, has become a member of the South Central Counties Medical Society. Dr. Waterson received his preliminary education at Washington and Lee University and his medical degree at Columbia University in 1962. He completed his residency training at Presbyterian Hospital, New York, N.Y. He specializes in dermatology.

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ANNUAL CONVENTION

April 3-6, 1986

St. Louis
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In Memoriam

■ **Armand D. Fries, M.D.,** 11 W. Geyer Lane, St. Louis 63131; graduate of St. Louis University, 1922; member of the St. Louis Metropolitan Medical Society; age 89; died October 26, 1985.

■ **William H. Goodson, M.D.,** 815 W. 59th St., Kansas City 64113; graduate of Harvard Medical School, 1934; member of the Jackson County Medical Society; age 76; died October 12, 1985.

■ **Waller G. Hook, M.D.,** 10010 El Monte, Shawnee Mission, Kan. 66207; graduate of the University of Kansas, 1926; member of the Jackson County Medical Society; age 85; died October 9, 1985.

■ **Albert R. Maddox, M.D.,** 509 W. Johnson, Sedalia 65301; graduate of the Howard University, 1926; member of the Pettis County Medical Society; age 87; died September 12, 1985.

■ **Lloyd H. McPike, M.D.,** 2217 Brownell St., Joplin 64801; graduate of the University of Oklahoma, 1935; member of the Jasper County Medical Society; age 81; died October 11, 1985.

■ **George B. Neukom, M.D.,** 701 Wabash Ave. c/o Trust Department, Terre Haute, Ind. 47807; graduate of Creighton University, 1939; member of the Mineral Area County Medical Society; age 76; died January 16, 1985.

■ **Ruth Seevers, M.D.,** Osceola 64776; graduate of the University of Missouri-Columbia, 1906; member of West Central Counties Medical Society; age 102; died October 13, 1985.

■ **Leo T. Taylor, M.D.,** P. O. Box 249, Neosho 64850; graduate of University of Arkansas, 1933; member of the Ozarks County Medical Society; age 77; died September 17, 1985.

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Information for Contributors

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In addition, in view of *The Copyright Revision Act of 1976*, effective Jan. 1, 1978, transmittal letters to the editor should contain the following language: "In consideration of the Missouri State Medical Association's taking action in reviewing and editing my submission, the author(s) undersigned hereby transfers, assigns or otherwise conveys all copyright ownership to the MSMA in the event that such work is published by the MSMA." We regret that transmittal letters not containing the foregoing language signed by all authors of the submission will necessitate delay in review of the manuscript. Please include the title of the article in the transmittal letter.

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Manuscripts should be typewritten, double spaced, and the original with one copy submitted. Retain another copy for proofreading. Please number the pages of your manuscript. Manuscripts are not returned. Hospital and University appointments of the author(s) should accompany the manuscript. A synopsis-abstract of no more than 75 words should accompany the manuscript.

References

References should be cited in numerical order in the text and arranged at the end of the article in the same order in which they are cited. The reference should give name of author, title of article, name of periodical, volume number, initial page number and year. Authors are responsible for reference accuracy.

Illustrations

Illustrations should be glossy prints or drawings in India ink on white paper. They should not be mounted and name of author and figure number should be penciled lightly on the back. Legends should appear on a separate sheet.

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Editorials should be written in clear, concise language. Length should be about two or three pages typed with double spacing.

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Letters will be published at the discretion of the editor, managing editor, and Editorial Board.

Deadline

All material other than scientific should be received prior to the first of the month preceding month of publication.

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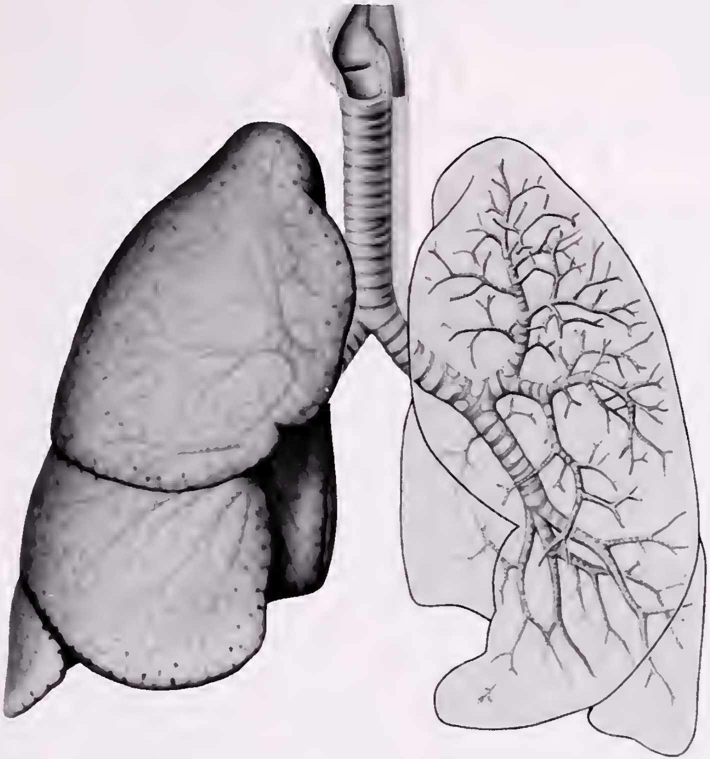
Consider the causative organisms…



Ceclor®
cefaclor

250-mg Pulvules® t.i.d.

offers effectiveness against the major causes of bacterial bronchitis

H. influenzae, *H. influenzae*, *S. pneumoniae*, *S. pyogenes*
(ampicillin-susceptible) (ampicillin-resistant)

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: *General Precautions* — If an allergic reaction to Ceclor® (cefaclor, Lilly) occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy — Pregnancy Category B — Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor® (cefaclor, Lilly). There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers — Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known Caution should be exercised when Ceclor is administered to a nursing woman.

Usage in Children — Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain — Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic — Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic — Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal — Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782R]

Note Ceclor® (cefaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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On nitrates,
but angina still
strikes...

After a nitrate, add ISOPTIN®

(verapamil HCl/Knoll)

To protect your patients, as well as their quality of life, add Isoptin instead of a beta blocker.

First, Isoptin not only reduces myocardial oxygen demand by reducing peripheral resistance, but also increases coronary perfusion by preventing coronary vasospasm and dilating coronary arteries — both normal and stenotic. These are antianginal actions that no beta blocker can provide.

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With Isoptin, fatigue, bradycardia and mental depression are rare. Unlike beta blockers, Isoptin can safely be given to patients with asthma, COPD, diabetes or peripheral vascular disease. Serious adverse reactions with Isoptin are rare at recommended doses; the single most common side effect is constipation (6.3%).

Cardiovascular contraindications to the use of Isoptin are similar to those of beta blockers: severe left ventricular dysfunction, hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no artificial pacemaker is present) and second- or third-degree AV block.

So, the next time a nitrate is not enough, add Isoptin...for more comprehensive antianginal protection without side effects which may cramp an active life style.

ISOPTIN. Added antianginal protection without beta-blocker side effects.

Please see brief summary on following page.

ISOPTIN®
(verapamil HCl/Knoll)
80 mg and 120 mg scored, film-coated tablets

Contraindications: Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure < 90 mm Hg) or cardiogenic shock, sick sinus syndrome (except in patients with a functioning artificial ventricular pacemaker), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction < 30% or moderate to severe symptoms of cardiac failure) and in patients with any degree of ventricular dysfunction if they are receiving a beta blocker. (See *Precautions.*) Patients with milder ventricular dysfunction should, if possible, be controlled with optimum doses of digitalis and/or diuretics before ISOPTIN is used. (Note interactions with digoxin under *Precautions.*) ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild and controlled by decrease in ISOPTIN dose). Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Such elevations may disappear even with continued treatment; however, four cases of hepatocellular injury by verapamil have been proven by rechallenge. Periodic monitoring of liver function is prudent during verapamil therapy. Patients with atrial flutter or fibrillation and an accessory AV pathway (e.g. W-P-W or L-G-L syndromes) may develop increased antegrade conduction across the aberrant pathway bypassing the AV node, producing a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion, which has been used safely and effectively after ISOPTIN. Because of verapamil's effect on AV conduction and the SA node, 1° AV block and transient bradycardia may occur. High grade block, however, has been infrequently observed. Marked 1° or progressive 2° or 3° AV block requires a dosage reduction or, rarely, discontinuation and institution of appropriate therapy depending upon the clinical situation. Patients with hypertrophic cardiomyopathy (IHSS) received verapamil in doses up to 720 mg/day. It must be appreciated that this group of patients had a serious disease with a high mortality rate and that most were refractory or intolerant to propranolol. A variety of serious adverse effects were seen in this group of patients including sinus bradycardia, 2° AV block, sinus arrest, pulmonary edema and/or severe hypotension. Most adverse effects responded well to dose reduction and only rarely was verapamil discontinued. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacologic effects. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, close surveillance of vital signs and clinical status should be carried out. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patients should be carefully monitored to avoid over- or under-digitalization. ISOPTIN may have an additive effect on lowering blood pressure in patients receiving oral antihypertensive agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Clinical experience with the concomitant use of ISOPTIN and short- and long-acting nitrates suggest beneficial interaction without undesirable drug interactions. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category* C: There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block: 3rd degree (0.8%), bradycardia: HR < 50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%), elevations of liver enzymes have been reported. (See *Warnings.*) The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: ecchymosis, bruising, gynecomastia, psychotic symptoms, confusion, paresthesia, insomnia, somnolence, equilibrium disorder, blurred vision, syncope, muscle cramp, shakiness, claudication, hair loss, macules, spotty menstruation. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in round, scored, film-coated tablets containing either 80 mg or 120 mg of verapamil hydrochloride and embossed with "ISOPTIN 80" or "ISOPTIN 120" on one side and with "KNOLL" on the reverse side. Revised August, 1984 2385

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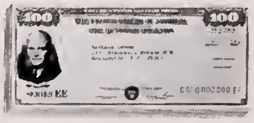

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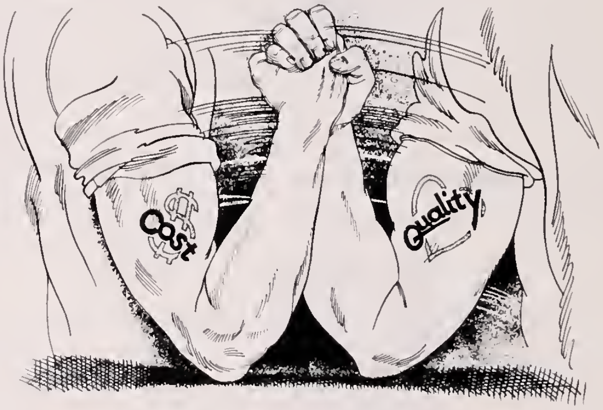

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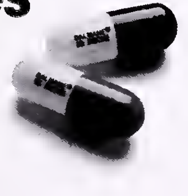

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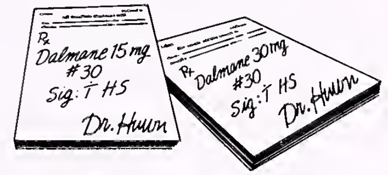

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